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Number series:

Choose the correct alternative that will continue the same pattern and replace the question mark in the given series.

1) 2, 7, 27, 107, 427, ?

A. 1262

B. 1707

C. 4027

D. 4207

2) 11, 10, ?, 100, 1001, 1000, 10001

A. 101

B. 110

C. 111

D. None of these

3) 10, 100, 200, 310, ?

A. 400

B. 410

C. 420

D. 430

4) 2,3,8,27, 112,?

A. 226

B. 339

C. 452

D. 565

5) 20, 20, 19, 16, 17, 13, 14, 11, ?, ?

A. 10, 10

B. 10, 11

C. 13, 14

D. 13, 16

6) 625, 5, 125, 25, 25, ? , 5

A. 5

B. 25

C. 125

D. 625

7) 2,2,5, 13,28,?

A. 49

B. 50

C. 51

D. 52

8) 1, 5, 14, 30, 55, 91, ?

A. 130

B. 140

C. 150

D. 160

9) 240, ?, 120, 40, 10, 2

A. 180

B. 240

C. 420

D. 480

10) 1, 9, 25, 49, ?, 121

A. 64

B. 81

C. 91

D. 100

11) 28, 33, 31, 36, ?, 39

A. 32

B. 34

C. 38

D. 40

12) 6, 11, 21, 36, 56, ?

A. 42

B. 51

C. 81

D. 91

13) 563, 647, 479, 815, ?

A. 672

B. 386

C. 279

D. 143

14) 13, 35, 57, 79, 911, ?

A. 1110

B. 1112

C. 1113

D. 1315

15) 1, 4, 10, 22, 46, ?

A. 64

B. 86

C. 94

D. 122

16) 13, 32, 24, 43, 35, ?, 46, 65, 57, 76

A. 45

B. 52

C. 54

D. 55

17) 90, 180, 12, 50, 100, 200, ?, 3, 50, 4, 25, 2, 6, 30, 3

A. 150

B. 175

C. 225

D. 250

18) 2, 3, 3, 5, 10, 13, ?, 43, 172, 177

A. 23

B. 38

C. 39

D. 40

19) 2, 1, 2, 4, 4, 5, 6, 7, 8, 8, 10, 11, ?

A. 9

B. 10

C. 11

D. 12

20) 3, 4, 7, 7, 13, 13, 21, 22, 31, 34, ?

A. 42

B. 43

C. 51

D. 52

21) 6, 12, 21, ?, 48

A. 33

B. 38

C. 40

D. 45

22) 1, 1, 2, 6, 24, ?, 720

A. 100

B. 104

C. 108

D. 120

23) 5824, 5242, ?, 4247, 3823

A. 4467

B. 4718

C. 4856

D. 5164

24) 2, 8, 16, 128, ?

A. 2042

B. 2046

C. 2048

D. 2056

25) 1, 2, 6, 7, 21, 22, 66, 67, ?

A. 70

B. 134

C. 201

D. 301

26) 0.5, 0.55, 0.65,0.8,?

A. 0.9

B. 0.82

C. 1

D. 0.95

27) 5, 2, 7, 9, 16, 25, ?

A. 41

B. 45

C. 48

D. 52

28) 3, 12,27,48, 75, 108,?

A. 147

B. 162

C. 183

D. 192

29) 6, 18, 3, 21, 7, 56, ?

A. 8

B. 9

C. 63

D. 64

30) 3, 7, 23, 95, ?

A. 62

B. 128

C. 479

D. 575

31) 8, 9, 8, 7, 10, 9, 6, 11, 10, ?, 12

A. 5

B. 7

C. 8

D. 11

32) 5760, 960, ?, 48, 16, 8

A. 120

B. 160

C. 192

D. 240

33) 4, 7, 12, 19, 28, ?

A. 30

B. 36

C. 39

D. 49

34) 325, 259, 204, 160, 127, 105, ?

A. 94

B. 96

C. 98

D. 100

35) 8, 28, 116, 584, ?

A. 1752

B. 3502

C. 3504

D. 3508

36) 10, 18, 28, 40, 54, 70, ?

A. 85

B. 86

C. 87

D. 88

37) 45, 54, 47, ?, 49, 56, 51, 57, 53

A. 48

B. 50

C. 55

D. None of these

38) 120, 99, 80, 63, 48, ?

A. 35

B. 38

C. 39

D. 40

ANSWER KEY

1) B	2) A	3) D	4) D	5) A	6) C	7) D	8) B	9) B	10) B
11) B	12) C	13) D	14) C	15) C	16) C	17) A	18) B	19) B	20) B
21) A	22) D	23) B	24) C	25) C	26) C	27) A	28) A	29) A	30) C
31) A	32) C	33) C	34) A	35) D	36) D	37) C	38)		

SOLUTIONS:

1) The pattern is + 5, + 20, + 80, + 320, ... i.e. + (5 x 1^2), + (5 x 2^2), + (5 x 4^2), + (5 x 8^2),.....
So, missing term = 427 + (5 x 16^2) = 427 + 1280 = 1707.

2) The pattern is - 1, x 10 + 1, - 1, x 10 + 1, - 1, x 10 + 1, ...

So, missing term = 10 x 10 + 1 = 101.

3) The pattern is + 90 + 100, + 110,.....

So, missing term = 310 + 120 = 430.

4) The pattern is x 1 + 1, x 2 + 2, x 3 + 3, x 4 + 4,.....

So, missing term = 112 x 5 + 5 = 565.

5) Let the missing terms of the series be x_1 and x_2.

Thus, the sequence 20, 20, 19, 16, 17, 13, 14, 11, xv x2 is a combination of two series :

I. 20, 19, 17, 14, x_1 and II. 20, 16, 13, 11, x_2
The pattern in I is - 1, - 2, - 3,.....So, missing term, x_1 = 14 - 4 = 10.
The pattern in II is - 4, - 3, - 2,.....So, missing term, x_2 = 11 - 1 = 10.

6) It can be all of them depending on what one chooses as the series.
It can be 625 if one considers the series 5^1, 5^2, 5^4, 5^8...
It can be 25 if one considers the series 5^1, 5^2, 5^1, 5^2....
It can be 125 if one considers the series 5^1, 5^2, 5^3, 5^4....

7) The pattern is + 0, + 3, + 8, + 15, ... i.e. + (l^2 - 1), + (2^2 - 1), + (3^2 - 1), + (4^2 - 1), ...
So, missing term = 28 + (5^2 - 1) = 28 + 24 = 52.

8) The pattern is + 4, + 9, + 16, + 25, + 36, ... i.e. + 2^2, + 3^2, + 4^2, + 5^2, + 6^2,.....
So, missing term = 91 + 7^2 = 91 + 49 = 140.

9) The pattern is ÷ 1, ÷ 2, ÷ 3, ÷ 4, ÷ 5.

So, missing term = 240 ÷ 1 = 240.

10) The given series consists of squares of consecutive odd numbers

i.e. 1^2, 3^2, 5^2, 7^2,.....
So, missing term = 9^2 = 81.

11) The pattern is + 5, - 2, + 5, - 2,.....

So, missing term = 36 - 2 = 34.

12) The pattern is + 5, + 10, + 15, + 20, ...

So, missing term = 56 + 25 = 81.

13) The pattern is + 84, - 168, + 336,.....i.e. + 84, - (84 x 2), + (84 x 2^2), ...
So, missing term = 815 - (84 x 2^3) = 815 - 672 = 143.

14) The terms of the given series are numbers formed by joining together consecutive odd numbers in order i.e. 1 and 3, 3 and 5, 5 and 7, 7 and 9, 9 and 11, ...
So, missing term = number formed by joining 11 and 13 = 1113.

15) The pattern is + 3, + 6, + 12, + 24,.....

So, missing term = 46 + 48 = 94.

16) The given sequence is a combination of two series:

I. 13, 24, 35, 46, 57 and II. 32, 43, ?, 65, 76

The pattern in both I and II is + 11. So, missing term = 43 + 11 = 54.

17) Clearly, 90 = 30 x 3, 180 = 6 x 30, 12 = 2 x 6, 50 = 25 x 2, 100 = 4 x 25, 200 = 50 x 4.

So, missing term = 3 x 50 = 150

18) The pattern is + 1, x 1, + 2, x 2, + 3, x 3, + 4, x 4, + 5.

So, missing term = 13 x 3 = 39.

19) The given sequence is a combination of three series :

I. 1st, 4th, 7th, 10th, 13th terms i.e. 2, 4, 6, 8, ?

II. 2nd, 5th, 8th, 11th terms i.e. 1, 4, 7, 10

III. 3rd, 6th, 9th, 12th terms i.e. 2, 5, 8, 11

Clearly, I consist of consecutive even numbers. So, the missing term is 10.

20) The given sequence is a combination of two series :

I. 3, 7, 13, 21, 31, ? and II. 4, 7, 13, 22, 34

The pattern in I is + 4, + 6, + 8, + 10,.....

The pattern in II is + 3, + 6, + 9, + 12,.....

So, missing term = 31 + 12 = 43.

21) The pattern is + 6, + 9, + 12, + 15, ...

So, missing term = 21 + 12 = 33.

22) The pattern is x 1, x 2, x 3, x 4,.....

So, missing term = 24 x 5 = 120.

23) Each term in the series is obtained by subtracting from the preceding term the number formed by the first three digits of the preceding term.

So, missing term = 5242 - 524 = 4718.

24) Each term in the series, except the first two terms, is the product of the preceding two terms.

So, missing term = 16 x 128 = 2048.

25) The pattern is + 1, x 3, + 1, x 3, + 1, x 3, + 1,.....

So, missing term = 67 x 3 = 201.

26) The pattern is + 0.05, + 0.10, + 0.15,.....

So, missing term = 0.8 + 0.20 = 1.

27) Each term in the series, except the first two terms, is the sum of the preceding two terms.

So, missing term = 16 + 25 = 41.

28) The terms of the given series are $3 \times l^2$, 3×2^2, 3×3^2, 3×4^2, 3×5^2, 3×6^2,.....

So, missing term = $3 \times 7^2 = 3 \times 49 = 147$.

29) Each term at an even place in the series is the product of its two adjacent terms.

Thus, if the missing term be x, then we have: 7 x x = 56 or x = 56 ÷ 7 = 8.

30) 1st number = 3
2nd number = 3 x 2 +1 = 7
3rd number = 7 x 3 + 2 = 23
4th number = 23 x 4 + 3 = 95
5th number = 95 x 5 + 4 = 479

31) The given sequence is a combination of three series :

I. 1st, 4th, 7th, 10th terms i.e. 8, 7, 6, ?

II. 2nd, 5th, 8th, 11th terms i.e. 9, 10, 11, 12

III. 3rd, 6th, 9th terms i.e. 8, 9, 10 The pattern in I is - 1.

So, missing term = 6 - 1 = 5.

32) The pattern is ÷ 6, ÷ 5, ÷ 4, ÷ 3, ÷ 2.
So, missing term = 960 - 5 = 192.

33) The pattern is + 3, + 5, + 7, + 9, ...

So, missing term = 28 + 11 = 39.

34) The pattern is - 66, - 55, - 44, - 33, - 22, ...

So, missing term = 105 - 11 = 94.

35) The pattern is x 3 + 4, x 4 + 4, x 5 + 4,.....

So, missing term = 584 x 6 + 4 = 3508.

36) The pattern is + 8, + 10, + 12, + 14, ...

So, missing term = 70 + 18 = 88.

37) The given sequence is a combination of two series:

I. 45, 47, 49, 51, 53 and II. 54, ?, 56, 57

Clearly, II consists of consecutive natural numbers, starting from 54.

So, missing term = 55.

38) The pattern is - 21, - 19, - 17, - 15,.....

So, missing term = 48 - 13 = 35.

Series Completion:

1) Look at this series: U32, V29, __, X23, Y20, What number should fill the blank?

A. W26

B. W17

C. Z17

D. Z26

2) Look at this series: 0.15, 0.3, ____, 1.2, 2.4, What number should fill the blank?

A. 4.8

B. 0.006

C. 0.6

D. 0.9

3) Look at this series: XXIV, XX, __, XII, VIII, What number should fill the blank?

A. XXII

B. XIII

C. XVI

D. IV

4) Look at this series: 4, 7, 25, 10, __, 20, 16, 19, What number should fill the blank?

A. 13

B. 15

C. 20

D. 28

5) Look at this series: J14, L16, __, P20, R22, What number should fill the blank?

A. S24

B. N18

C. M18

D. T24

6) Look at this series: VI, 10, V, 11, __, 12, III, What number should fill the blank?

A. II

B. IV

C. IX

D. 14

7) Look at this series: (1/9), (1/3), 1, ____ , 9, What number should fill the blank?

A. (2/3)

B. 3

C. 6

D. 27

8) Look at this series: 83, 73, 93, 63, __, 93, 43, What number should fill the blank?

A. 33

B. 53

C. 73

D. 93

9) Look at this series: 15, __, 27, 27, 39, 39, What number should fill the blank?

A. 51

B. 39

C. 23

D. 15

10) Look at this series: 72, 76, 73, 77, 74, __, 75, What number should fill the blank?

A. 70

B. 71

C. 75

D. 78

11) Look at this series: 664, 332, 340, 170, ____, 89, What number should fill the blank?

A. 85

B. 97

C. 109

D. 178

12) Look at this series: F2, __, D8, C16, B32, What number should fill the blank?

A. A16

B. G4

C. E4

D. E3

13) Look at this series: V, VIII, XI, XIV, __, XX, What number should fill the blank?

A. IX

B. XXIII

C. XV

D. XVII

14) Look at this series: 8, 43, 11, 41, __, 39, 17, What number should fill in the blank?

A. 8

B. 14

C. 43

D. 44

15) Look at this series: 70, 71, 76, __, 81, 86, 70, 91, What number should fill the blank?

A. 70

B. 71

C. 80

D. 96

ANSWER KEY

1) A	2) C	3) C	4) A	5) B
6) B	7) B	8) B	9) D	10) D
11) D	12) C	13) D	14) B	15) A

SOLUTION

1) In this series, the letters progress by 1; the numbers decrease by 3.

2) This is a simple multiplication series. Each number is 2 times greater than the previous number.

3) This is a simple subtraction series; each number is 4 less than the previous number.

4) Two series alternate here, with every third number following a different pattern. In the main series, 3 is added to each number to arrive at the next. In the alternating series, 5 is subtracted from each number to arrive at the next.

5) In this series, the letters progress by 2, and the numbers increase by 2.

6) This is an alternating addition and subtraction series. Roman numbers alternate with Arabic numbers. In the Roman numeral pattern, each number decreases by 1. In the Arabic numeral pattern, each number increases by 1.

7) This is a multiplication series; each number is 3 times the previous number.

8) This is a simple subtraction series in which a random number, 93, is interpolated as every third number. In the subtraction series, 10 is subtracted from each number to arrive at the next.

9) In this simple addition with repetition series, each number in the series repeats itself, and then increases by 12 to arrive at the next number.

10) This series alternates the addition of 4 with the subtraction of 3.

11) This is an alternating division and addition series: First, divide by 2, and then add 8.

12) The letters decrease by 1; the numbers are multiplied by 2.

13) This is a simple addition series; each number is 3 more than the previous number.

14) This is a simple alternating addition and subtraction series. The first series begins with 8 and adds 3; the second begins with 43 and subtracts 2.

15) In this series, 5 is added to the previous number; the number 70 is inserted as every third number.

Series Completion:

In each of the following letter series, some of the letters are missing which are given in that order as one of the alternatives below it. Choose the correct alternative.

1) bca _ b _ aabc __ a __ caa

A. acab

B. bcbb

C. cbab

D. ccab

2) m _ nm _ n _ an _ a _ ma _

A. aamnan

B. ammanm

C. aammnn

D. amammn

3) _ op _ mo _ n _ _ pnmop _.

A. mnpmon

B. mpnmop

C. mnompn

D. mnpomn

4) ab __ d __ aaba __ na _ badna _ b

A. andaa

B. babda

C. badna

D. dbanb

5) a _ ba _ b _ b _ a _ b

A. abaab

B. abbab

C. aabba

D. bbabb

6) _ nmmn _ mmnn _ mnnm _

A. nmmn

B. mnnm

C. nnmm

D. nmnm

7) cccbb _ aa _ cc _ bbbaa _ c

A. aebe

B. baca

C. baba

D. acba

8) ab _ aa _ bbb _ aaa _ bbba

A. abba

B. baab

C. aaab

D. abab

9) _ bc _ ca _ aba _ c _ ca

A. abcbb

B. bbbec

C. bacba

D. abbec

10) c _ bba _ cab _ ac _ ab _ ac

A. abebe

B. acbcb

C. babec

D. bcacb

11) _ aa _ ba _ bb _ ab _ aab

A. aaabb

B. babab

C. bbaab

D. bbbaa

12) _ _aba _ _ ba _ ab

A. abbba

B. abbab

C. baabb

D. bbaba

13) ac _ cab _ baca _ aba _ acac

A. aacb

B. aebe

C. babb

D. bcbb

14) gfe _ ig _ eii _ fei _ gf_ ii

A. eifgi

B. figie

C. ifgie

D. ifige

15) _ tu _ rt _ s _ _ usrtu _

A. rtusru

B. rsutrr

C. rsurtr

D. rsurts

ANSWER KEY

1) A	2) C	3) A	4) A	5) D
6) C	7) B	8) A	9) A	10) B
11) C	12) B	13) A	14) C	15) D

SOLUTION

1) The series is bcaa/bcaa/bcaa/bcaa. Thus, the pattern 'bcaa' is repeated.

2) The series is man/man/man/man/man. Thus, the pattern 'man' is repeated.

3) The series is mopn/mopn/mopn/mopn. Thus, the pattern 'mopn' is repeated.

4) The series is abadna/abadna/abadna/ab. Thus, the pattern 'abadna' is repeated.

5) The series is abb/abb/abb/abb. Thus, the pattern 'abb' is repeated.

6) The series is nnmm/nnmn/nnmm/nnmm. Thus, the pattern 'nnmm' is repeated.

7) The series is ccc bbb aaa/ccc bbb aaa/c. Thus, the pattern ccc bbb aaa is repeated.

8) The series is abb/aaabbb/aaaabbbb/a. Thus the letters are repeated twice, then thrice, then four times and so on.

9) The series is abc/bca/cab/abc/bca, Thus, the letters change places in a cyclic order.

10) The series is cabbac/cabbac/cabbac. Thus, the pattern 'cabbac' is repeated.

11) The series is baab/baab/baab/baab. Thus, the pattern 'baab' is repeated.

12) The series is ab/ab/ab/ab/ab/ab. Thus, the pattern 'ab' is repeated.

13) The series is acac/abab/acac/abab/acac. Thus, the pattern acac/abab is repeated

14) The series is gfeii/gfeii/gfeii/gfeii. Thus, the pattern 'gfeii' is repeated.

15) The series rtus/rtus/rtus/rtus. Thus, the pattern 'rtus' is repeated.

Blood Relation:

1) Pointing towards a girl, Abhisek says, "This girl is the daughter of only a child of my father." What is the relation of Abhisek's wife to that girl?

A. Daughter

B. Mother

C. Aunt

D. Sister

2) Anupam said to a lady sitting in a car, "The only daughter of the brother of my wife is the sister-in-law of the brother of your sister." How the husband of the lady is related to Anupam?

A. Maternal uncle

B. Uncle

C. Father

D. Son-in-law

3) Pointing to a girl Sandeep said, "She is the daughter of the only sister of my father." How is Sandeep related to the girl?

A. Uncle

B. Cousin

C. Father

D. Grandfather

4) Pointing to a boy in the photograph Reena said, "He is the only son of the only child of my grandfather." How Reena is related to that boy?

A. Mother

B. Sister

C. Aunt

D. Cannot be determined

5) Introducing a man, a woman said, "He is the only son of the mother of my mother." How is the woman related to the man?

A. Mother

B. Sister

C. Niece

D. Maternal aunt

6) Pointing to Gopi, Nalni says, "I am the daughter of the only son of his grandfather." How Nalni is related to Gopi?

A. Niece

B. Daughter

C. Sister

D. Cannot be determined

7) Pointing to a lady a person said, "The son of her only brother is the brother of my wife." How is the lady related to the person?

A. Maternal aunt

B. Grandmother

C. Sister of father-in-law

D. None of these

8) Pointing to a photograph Anjali said, "He is the son of the only son of my grandfather." How is the man in the photograph related to Anjali?

A. Brother

B. Uncle

C. Son

D. Data is inadequate

9) Pointing to a person, Deepak said, "His only brother is the father of my daughter's father". How is the person related to Deepak?

A. Father

B. Grandfather

C. Uncle

D. Brother-in-law

10) Pointing to Varman, Madhav said, "I am the only son of one of the sons of his father." How is Varman related to Madhav?

A. Nephew

B. Uncle

C. Father or Uncle

D. Father

11) Introducing a woman, Shashank said, "She is the mother of the only daughter of my son." How that woman is related to Shashank?

A. Daughter

B. Sister-in-law

C. Wife

D. Daughter-in-law

12) Amit said - "This girl is the wife of the grandson of my mother". How is Amit related to the girl?

A. Brother

B. Grandfather

C. Husband

D. Father-in-law

13) Pointing towards a man, a woman said, "His mother is the only daughter of my mother." How is the woman related to the man?

A. Mother

B. Grandmother

C. Sister

D. Daughter

14) Introducing Sonia, Aamir says, "She is the wife of only nephew of only brother of my mother." How Sonia is related to Aamir?

A. Wife

B. Sister

C. Sister-in-law

D. Data is inadequate

15) Deepak said to Nitin, "That boy playing with the football is the younger of the two brothers of the daughter of my father's wife." How is the boy playing football related to Deepak?

A. Son

B. Brother

C. Cousin

D. Brother-in-law

16) A is B's brother. C is D's father. E is B's mother. A and D are brothers. How is E related to C?

A. Sister

B. Sister-in-law

C. Niece

D. Wife

17) B is the brother of A, whose only sister C is mother of D. E is maternal grandmother of D. How is B related to E?

A. Daughter-in-law

B. Daughter

C. Son

D. Nephew

18) Raju is the brother of Alok. Sunita is the sister of Sunil. Alok is the son of Sunita. How is Raju related to Sunil?

A. Nephew

B. Son

C. Brother

D. Father

19) A and B are sisters, R and S are brothers. A's daughter is R's sister. What is B's relation to S?

A. Mother

B. Grandmother

C. Sister

D. Aunt

20) E is the sister of B, A is the father of C, B is the son of C. How is A related to E?

A. Grandfather

B. Granddaughter

C. Father

D. Great-grandfather

21) A is B's brother, C is A's mother, D is C's father, E is B's son. How is D related to E?

A. Son

B. Grandson

C. Grandfather

D. Great Grandfather

22) B is D's mother and C is D's brother. H is E's daughter whose wife is D. How are E and C related?

A. Father-in-law

B. Brother-in-law

C. Uncle

D. Brother

23) Given that A is the mother of B. C is the son of A. D is the brother of E. E is the daughter of B. Who is the grandmother of D?

A. A

B. B

C. C

D. D

24) A is D’s brother. D is B’s father. B and C are sisters. How is A related to C?

A. Son

B. Grandson

C. Father

D. Uncle

25) Savita is the niece of Ashok, whose is mother is Lavanya. Lavanya's mother is Kavita. Kavita's husband is Govardhan. Padma is the mother-in-law of Govardhan. How is Savita related to Govardhan?

A. Great grandson's daughter

B. Daughter-in-law

C. Great grand-daughter

D. Grand niece

26) Reena is the daughter-in-law of Vinay and sister-in-law of Suresh. Manoj is the son of Vinay and only brother of Suresh. Find the relation between Reena and Manoj.

A. Wife

B. Aunt

C. Cousin

D. Sister-in-law

27) Suresh introduces a man as “He is the son of the woman who is the mother of the husband of my mother”. How is Suresh related to the man?

A. Uncle

B. Son

C. Cousin

D. Nephew

28) Pointing a photograph X said to his friend Y, "She is the only daughter of the father of my mother." How X is related to the person of photograph?

A. Daughter

B. Son

C. Nephew

D. Cannot be decided

29) Pointing to a woman, Abhijit said, "Her granddaughter is the only daughter of my brother." How is the woman related to Abhijit?

A. Sister

B. Grandmother

C. Mother-in-law

D. Mother

ANSWER KEY

1) B	2) D	3) B	4) B	5) C
6) C	7) C	8) A	9) C	10) C
11) D	12) D	13) A	14) A	15) B
16) D	17) C	18) A	19) D	20) A
21) D	22) B	23) A	24) D	25) C
26) A	27) D	28) B	29) D	

SOLUTION

1) Only the child of my father means 'Abhisek' himself. This means the girl is the daughter of Abhisek. Hence, Abhisek's wife is the mother of the girl.

2) Anupam's son-in-law is the brother of the lady who was sitting in the car. Hence, the husband is also the son-in-law of Anupam.

3) The girl is the daughter of the sister of Sandeep's father. Hence, the girl is the cousin or Sandeep is the cousin of the girl.

4) The boy in the photograph is the only son of Reena's grandfather's only son; i.e., the boy is the only son of Reena's father. Hence, the boy is the brother of Reena or Reena is the sister of the boy.

5) The man is the only son of the mother of the woman. Hence, the man is the maternal uncle of the woman. So, the woman is the niece of the man.

6) Nalni is the daughter of the only son of Gopi's grandfather. Hence, it's clear that Nalni is the sister of Gopi.

7) Brother of my wife — My brother.in-law; Son of lady's brother is the brother-in-law of the man.
So lady's brother is man's father-in-law
i.e., the lady is the sister of man's father-in-law.

8) The man in the photograph is son of Anjali's grandfather's son i.e., the son of Anjali's father. Hence, the boy is the brother of Anjali.

9) Father of Deepak's daughter's father → Deepak's father. Hence, the person in the brother of Deepak's father. Therefore, the person is the uncle of Deepak.

10) Madhav is the only son of one of the sons of Varman's father → Either Varman is the father or uncle of Madhav.

11) The woman is the mother of Shashank's granddaughter. Hence, the woman is the daughter-in-law of Shashank.

12) The girl is the wife of grandson of Amit's mother i.e., the girl is the wife of son of Amit. Hence, Amit is the father-in-law of the girl.

13) Only daughter of my mother → myself.

Hence, the woman is the mother of the man.

14) Brother of mother means maternal uncle. Hence only nephew of Aamir's maternal uncle means Aamir himself. Therefore Sonia is the wife of Aamir.

15) Father's wife → mother. Hence, the daughter of the mother means sister and sister's younger brother means brother. Therefore, the boy is the brother of Deepak.

16) Let A be the son, B be son/daughter and C be the father and D be another son. E is the mother. Therefore, E is the wife of C.

17) B is the brother of C and E is the father of C, thus B is the son of E.

18) Raju and Alok are brothers. Sunita is mother of Alok and Raju. Also, Sunita is the sister of Sunil. Thus, Raju is the nephew of Sunil.

19) A and B are sisters. R and S are brothers. A's daughter is R's sister which means A is the mother of R and S as well. Thus, B is the aunt of S.

20) E is the sister of B means both are siblings. A is the father of C. B is the son of C means E & B are both children of B. Thus, A is the grandfather of E.

21) A & B both are brothers. C is the mother of A which means also the mother of B. D is C's father. E is B's son which means C is the grandmother of E. Thus, D is the great-grandfather of E.

22) B is the mother of D and C is the brother of D. C & D is siblings. E is the father of H and E's wife is D. Thus, E is the bother-in-law of C.

23) A is the mother of C & B. Also, D & E are siblings who are children of B. Thus, A is the grandmother of D.

24) A & D are brothers. D is the father of B. Also, B & C are sisters. Thus, A is the uncle of C.

25) Savita's uncle is Ashok and Ashok's mother is Lavanya which means Savita is grand-daughter of Lavanya. Also. Lavanya's mother is Kavita and Kavita's husband is Govardhan. Thus, Savita is the great grand -daughter of Govardhan.

26) Reena is the daughter-in-law of Vinay and sister-in-law of Suresh. Manoj is the son of Vinay and also, Manoj & Suresh are brothers. Thus, Reena is the wife of Manoj.

27) The man is the Suresh's father's brother. Thus, Suresh is the nephew of that man.

28) The only daughter of the father of X's mother' means mother of X.

Hence X is the son of the lady in the photograph. (X is a male because it says 'his' in the statement)

29) Daughter of Abhijit's brother → niece of Abhijit. Thus the granddaughter of the woman is Abhijit's niece.

Hence, the woman is the mother of Abhijit.

Direction Sense Test:

1) A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?

A. West

B. South

C. North-East

D. South-West

2) Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?

A. South-East

B. South

C. North

D. West

3) Rasik walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?

A. 15 m West

B. 30 m East

C. 30 m West

D. 45 m East

4) A boy rode his bicycle Northward, then turned left and rode 1 km and again turned left and rode 2 km. He found himself 1 km west of his starting point. How far did he ride northward initially?

A. 1 km

B. 2 km

C. 3 km

D. 5 km

5) The length and breadth of a hall are 8 m and 6 m respectively. A dog runs along all the four walls and finally along a diagonal order to catch a rat. How much total distance is covered by the dog?

A. 10

B. 14

C. 38

D. 48

6) One morning sujata started to walk towards the Sun. After covering some distance she turned to right then again to the right and after covering some distance she again turns to the right. Now in which direction is she facing?

A. North

B. South

C. North-East

D. South-West

7) One morning after sunrise, Vimal started to walk. During this walking he met Stephen who was coming from opposite direction. Vimal watch that the shadow of Stephen to the right of him (Vimal). To Which direction Vimal was facing?

A. East

B. West

C. South

D. Data inadequate

8) Golu started from his house towards North. After covering a distance of 8 km. he turned towards left and covered a distance of 6 km. What is the shortest distance now from his house?

A. 10 km.

B. 16 km.

C. 14 km

D. 2 km.

9) P started from his house towards west. After walking a distance of 25 m. He turned to the right and walked 10 m. He then again turned to the right and walked 15 m. After this he is to turn right at 135° and to cover 30 m. In which direction should he go?

A. West

B. South

C. South-West

D. South-East

10) Hemant in order to go to university started from his house in the east and came to a crossing. The road to the left ends in a theatre, straight ahead is the hospital. In which direction is the university?

A. North

B. South

C. East

D. West

11) Neha started to walk straight towards south. After walking 5 m she turned to the left and walked 3 m. After this she turned to the right and walked 5 m Now to which direction Neha is facing?

A. North-East

B. South

C. North

D. South-West

12) After walking 6 km, I turned to the right and then walked 2 km. After then I turned to the left and walked 10 km. In the end, I was moving towards the North. From which direction did I start my journey?

A. North

B. South

C. East

D. West

13) Reena walked from A to B in the East 10 feet. Then she turned to the right and walked 3 feet. Again she turned to the right and walked 14 feet. How far is she from A?

A. 4 feet

B. 5 feet

C. 24 feet

D. 27 feet

14) A child went 90 m in the East to look for his father, then he turned right and went 20 m. After this he turned right and after going 30 m he reached to his uncle's house. His father was not there. From there he went 100 m to his north and met his father. How far did he meet his father from the starting point?

A. 80 m

B. 100 m

C. 140 m

D. 260 m

15) Umesh directly went from P, to Q which is 9 feet distant. Then he turns to the right and walked 4 feet. After this he turned to the right and walked a distance which is equal from P to Q. Finally he turned to the right and walked 3 feet. How far is he now from P?

A. 6 feet

B. 5 feet

C. 1 feet

D. 0 feet

16) Amit started walking positioning his back towards the sun. After some time, he turned left, then turned right and towards the left again. In which direction is he going now?

A. North or South

B. East or West

C. North or West

D. South or West

17) Radha moves towards South-East a distance of 7 km, then she moves towards West and travels a distance of 14 km. From here she moves towards North-West a distance of 7 km and finally she moves a distance of 4 km towards east. How far is she now from the starting point?

A. 3 km

B. 4 km

C. 10 km

D. 11 km

18) Sundar runs 20 m towards East and turns to right and runs 10 m. Then he turns to the right and runs 9 m. Again he turns to right and runs 5 m. After this he turns to left and runs 12 m and finally he turns to right and 6 m. Now to which direction is Sundar facing?

A. East

B. West

C. North

D. South

19) From his house, Lokesh went 15 km to the North. Then he turned west and covered 10 km. Then he turned south and covered 5 km. Finally turning to the east, he covered 10 km. In which direction is he from his house?

A. East

B. West

C. North

D. South

20) Sachin walks 20 km towards North. He turns left and walks 40 km. He again turns left and walks 20 km. Finally he moves 20 km after turning to the left. How far is he from his starting position?

A. 20 km.

B. 30 km.

C. 50 km.

D. 60 km.

21) If South-East becomes North, North-East becomes West and so on. What will West become?

A. North-East

B. North-West

C. South-East

D. South-West

22) Raju moved to his North – West side for 2 km. From there he turned 90° clockwise and moved 2 km. From there he turned 90° clockwise and travelled 2km then he would be in which direction from the original position?

A. South west

B. Western

C. South east

D. North east

23) A person starts walking in south and after walking 20 meters he took a left turn and walks 30 meter and finally took a right turn and stopped after walking 40 meters. Find the distance between his initial position to final position?

A. 20√5

B. 30√5

C. 40√5

D. 55√5

24) A dog run 20m towards East and Turns to right runs 10m and turns to right runs 10m and again turns to left run 5m and then turns to left runs 12m and finally turns to left and runs 5m .Now which direction cat facing?

A. south

B. north

C. east

D. west

25) A person starts walking in south direction and walks a distance of 7 meters. Now he took a left turn and walk 6m. Again he takes a left turn and walk 15m and reached a point P. Find the distance between starting point and P and in which direction is the person from the initial point.

A. 10m, south east

B. 10m North West

C. 10m, north east

D. 10m, south west

26) Riya starts walking in the north direction and after walking some distance she took a left turn followed by a right turn. After that she took two consecutive left turn, now she is walking in which direction?

A. south

B. north

C. east

D. west

27) Neha travelled from a point X straight to point Y at a distance of 50 meters. He turned to his right and walks 50 meter more, then again turned right and walks 60 meter. Finally, he turned to right and walks 50 meters. How far is he from the starting point?

A. 10

B. 20

C. 30

D. 40

28) A man walks 40 meters towards north. Then turning to his right, he walks 50 meter. Then turning to his left, he walks 30 meters. Again he turns to his left and walks 40 meters. How far is he from initial position?

A. $40\sqrt{2}$

B. $50\sqrt{2}$

C. $60\sqrt{2}$

D. $50\sqrt{3}$

29) A boy facing north turns 60' in clockwise direction and then turns 150' in anti-clockwise. In which direction now he is facing.

A. south

B. north

C. east

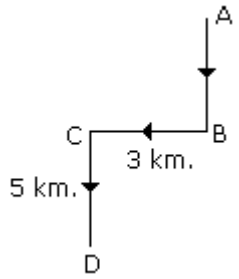
D. west

ANSWER KEY

1) D	2) D	3) D	4) B	5) C	6) A	7) C	8) A	9) C	10) A
11) B	12) B	13) B	14) B	15) C	16) A	17) C	18) C	19) C	20) A
21) C	22) D	23) B	24) B	25) C	26) A	27) A	28) B	29) D	

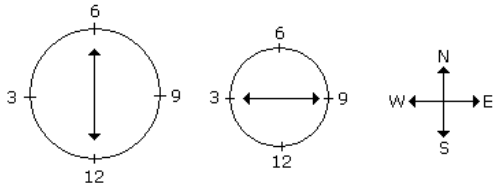
SOLUTION

1)



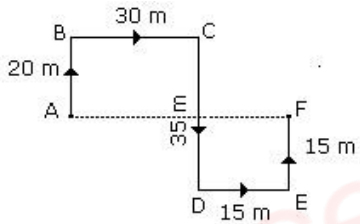
Hence required direction is South-West.

2)



At 9.15 P.M., the minute hand will point towards west.

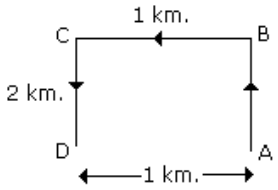
3)



Required distance AF = 30 + 15 = 45m

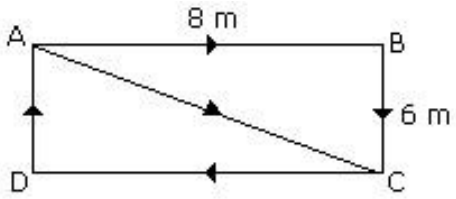
From above figure, F is in east direction from A.

4)



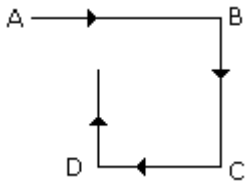
The boy rode 2 km. northward.

5)



Required distance = 8 + 6 + 8 + 6 + $\sqrt{8^2 + 6^2}$

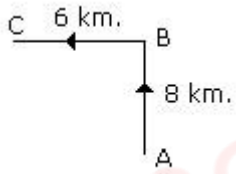
6)



Hence finally Sujata will face towards North.

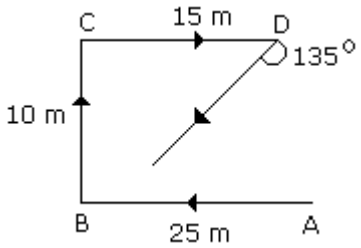
7) Sun rises in the east. So the shadow of a man will always falls towards the west. Since the shadow of Stephen is to the right of Vimal. Hence Vimal is facing towards South.

8)



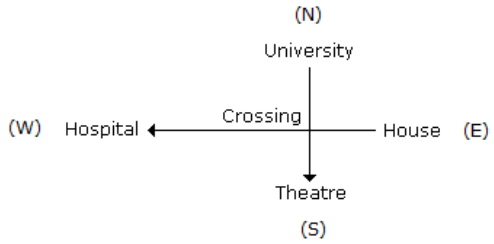
Required distance = AC = $\sqrt{8^2 + 6^2}$ = 10km

9)



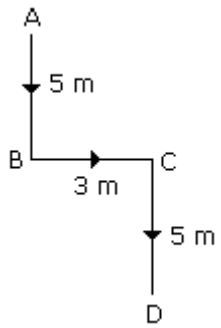
Hence he should go in the South-West direction.

10)



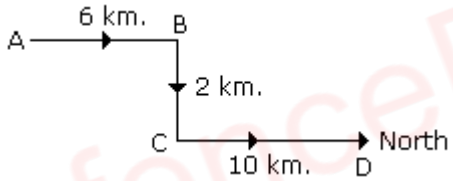
Therefore university is in North.

11)



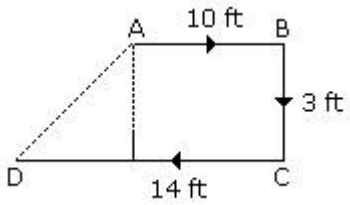
Hence X will face in the end towards South.

12)



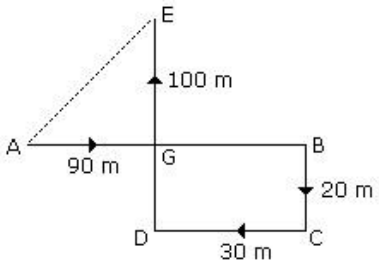
The journey was started from the South.

13)



Required distance = AD = $\sqrt{3^2 + (14 - 10)^2}$ = $\sqrt{9 + 16}$

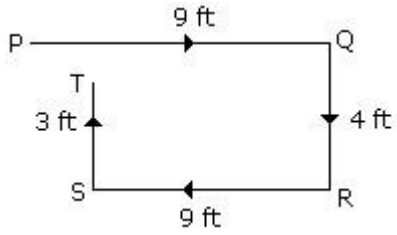
14)



Required distance = AE = $\sqrt{AE^2 + EG^2}$ = $\sqrt{(90-30)^2 + (100-20)^2}$

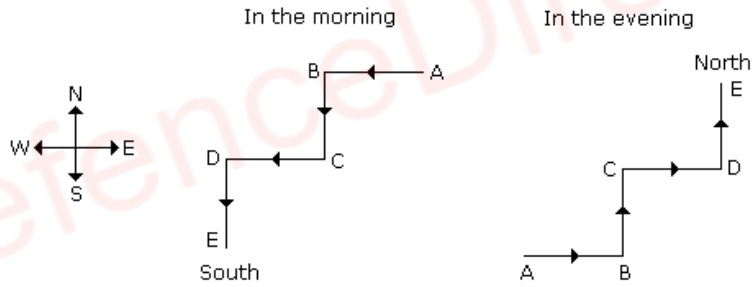
= $\sqrt{(60)^2 + (80)^2}$ = $\sqrt{3600 + 6400}$ = 100m

15)



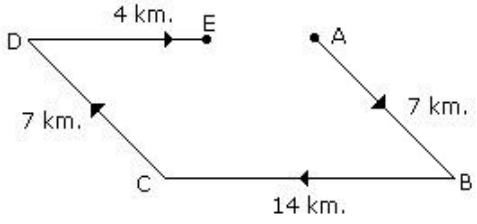
Required distance = PT = 4 - 3 = 1 ft

16)



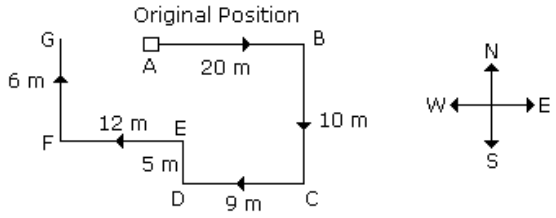
If he starts walking the morning then finally he will face towards South and if he starts in the evening then finally he will face towards North.

17)



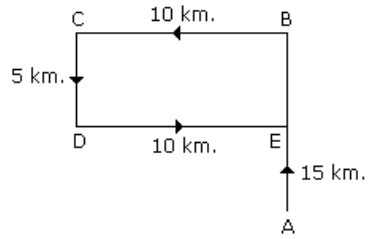
Required distance = AE = 14 - 4 = 10km

18)



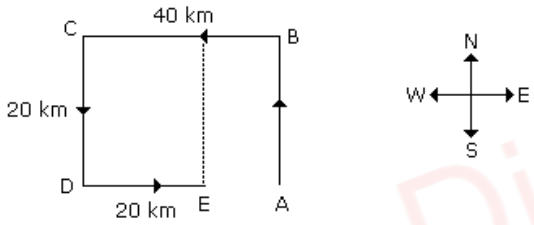
Therefore, it is clear that Sundar will face towards North.

19)



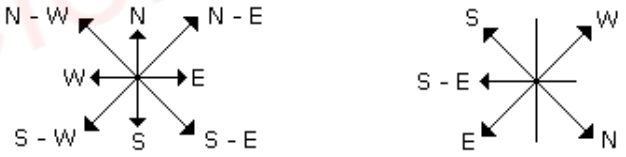
Therefore, it is clear that he is in the North from his house.

20)



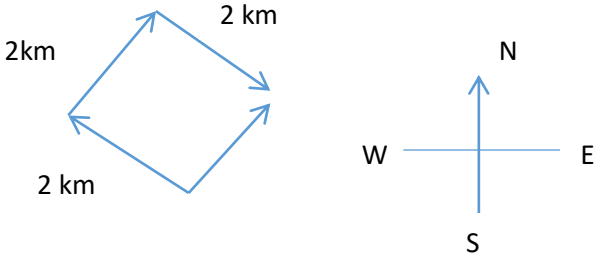
Required distance = 40 - 20 = 20 km

21)

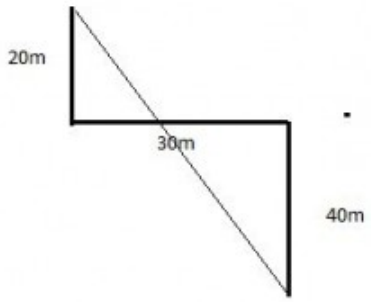


It is clear from the diagrams that new name of West will become South-East.

22)

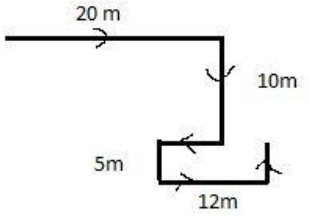


23)

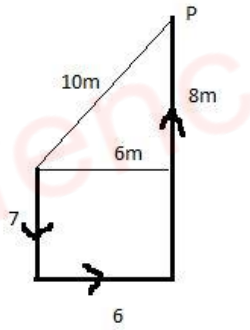


Distance = $(60)^2 + (30)^2 = \sqrt{4500} = 30\sqrt{5}$

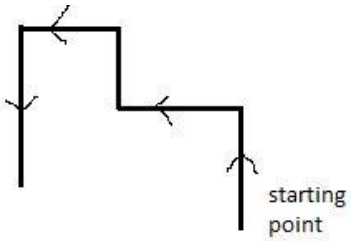
24)



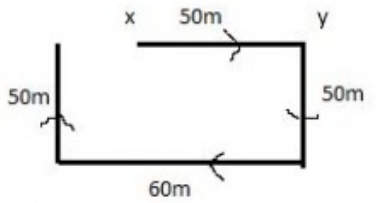
25)



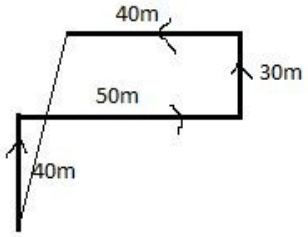
26)



27)

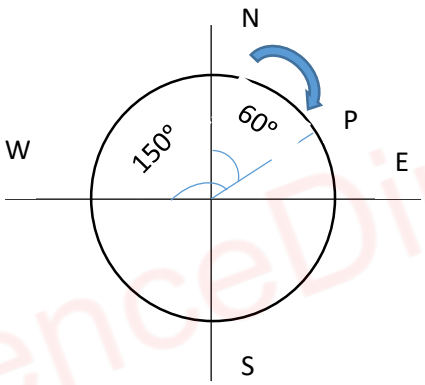


28)



Distance =$\sqrt{(70)^2 + (10)^2}$= $\sqrt{5000}$ = $50\sqrt{2}$

29)



Boy turns 60° clockwise from North
Then turns 150° anti-clockwise from point P

Thus, West is the direction.

Analogy:

1) ACE : FHJ : : OQS : ?
A. PRT

B. RTU

C. TVX

D. UWY

2) ACEG : DFHJ : : QSUW : ?
A. KMNP

B. MNPR

C. TQST

D. TVXZ

3) kcaC : Cack : : XgmF : ?
A. EmgF

B. EgmX

C. FmgX

D. GmeF

4) EGIK : FILO : : FHJL : ?
A. GJMP
B. GMJP
C. JGMP
D. JGPM

5) LOGIC : BHFNK : : CLERK : ?
A. XVRPA

B. QBKJA

C. LPRTU

D. JQDKB

6) BYCK : DWEV : : FUGT : ?
A. EHIJ

B. GHIJ

C. HSIR

D. SRHS

7) BUCKET : ACTVBDJLDFSU : : BONUS : ?

A. ACMNMOTVRT

B. SUNOB

C. ACNPMOTVRT

D. ACMNMOTURT

8) BPM : GNJ : : ? : AKD

A. FPO

B. FPM

C. HPB

D. LPH

9) QIOK : MMKO : YAWC : ?

A. SUEG

B. VUES

C. USGA

D. UESG

10) ABCD : OPQR : WXYZ : ?

A. EFGH

B. KLMN

C. QRST

D. STUV

11) ACFJ : ZXUQ :: EGIN : ?

A. VUSQ

B. UTRP

C. VRPM

D. VTRM

12) ? : QEHMDF :: WIDELY : HVCDXK

A. FRINGE

B. STRING

C. FRANCE

D. DEMAND

13) FIELD : GJFME :: SICKLE : ?

A. RHBJKD

B. RHJBKD

C. TJLDMF

D. TJDLMF

14) PSQR : CFED :: JMKL : ?

A. UVXZ

B. YVZX

C. YXZW

D. WZYX

15) REASON : SFBTPO :: THINK : ?

A. SGHMJ

B. UIJOL

C. UHNKI

D. UJKPM

16) 27 : 125 :: 64 : ?

A. 162

B. 216

C. 517

D. 273

17) 61 : 121 :: ? : 337

A. 211

B. 222

C. 220

D. 240

18) 68 : 130 :: ? : 350

A. 220

B. 224

C. 222

D. 226

19) K/T : 11/20 :: J/R : ?

A. 10/18

B. 11/19

C. 10/8

D. 9/10

20) 10 : 99 :: 9 : ?

A. 69

B. 80

C. 97

D. 49

21) 718 : 24 :: ? : 32

A. 5

B. 6

C. 10

D. 8

22) MXN : 13 x 14 :: FXR : ?

A. 14 x 15

B. 5 x 17

C. 6 x 18

D. 7 x 19

23) 16 : 56 :: 32 : ?

A. 96

B. 112

C. 120

D. 128

24) 24 : 60 :: 120 : ?

A. 160

B. 220

C. 300

D. 108

25) 335 : 216 :: 987 : ?

A. 868

B. 867

C. 872

D. 888

26) 4 : 19 :: 7 : ?

A. 52

B. 49

C. 28

D. 68

27) MO : 13 11 :: HJ : ?

A. 19 17

B. 18 16

C. 8 10

D. 16 18

28) 123 : 13^2 :: 235 : ?

A. 23^2

B. 35^2

C. 25^3

D. 25^2

29) 8 : 28 :: 27 : ?

A. 28

B. 8

C. 64

D. 65

30) 3 : 12 :: 5 : ?

A. 25

B. 35

C. 30

D. 15

ANSWER KEY

1) C	2) D	3) C	4) A	5) D	6) C	7) C	8) A	9) D	10) B
11) D	12) A	13) D	14) D	15) B	16) B	17) A	18) C	19) A	20) B
21) B	22) C	23) B	24) C	25) A	26) A	27) B	28) C	29) D	30) C

SOLUTION

1) Each letter of the first group is moved five steps forward to obtain the corresponding letter of the second group.

2) Each letter of the first group is moved three steps forward to obtain the corresponding letter of the second group.

3) The order of the letters of the first group is reversed to obtain the second group.

4) The first, second, third and fourth letters of the first group are moved one, two, three and four steps forward respectively to obtain the corresponding letters of the second group.

5) The order of the letters of the first group is reversed and each letter is moved one step backward to obtain the corresponding letters of the second group.

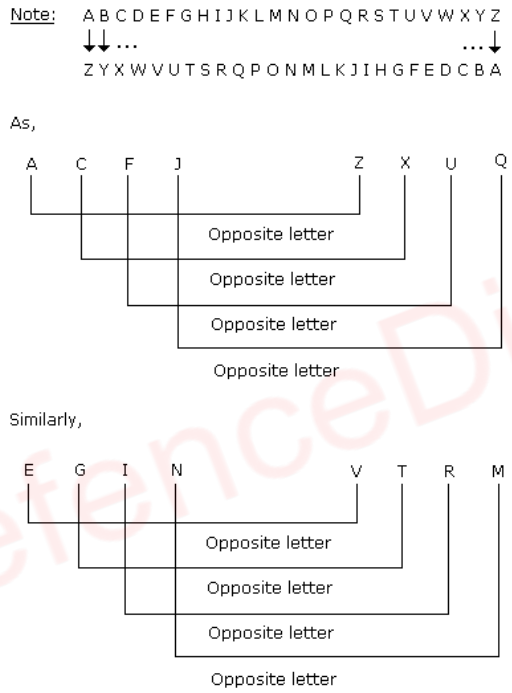
6) The first and third letters of the first group are each moved two steps forward, and the second and fourth letters are each moved two steps backward to obtain the corresponding letters of the second group.

7) Each letter of the first group is replaced by two letter --- one that comes after it and one that comes before it, in the second group.

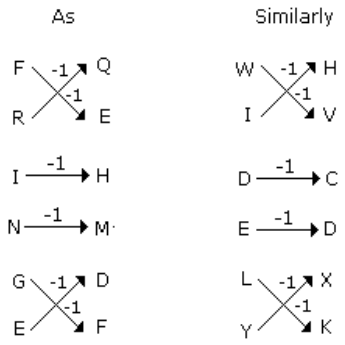
9) The first and third letters of the first group are each moved four steps backward to obtain the corresponding letters of the second group. The second and fourth letters of the first group are each moved for steps forward to obtain the corresponding letters of the second group.
A similar relationship will exist between the third and the fourth groups.

10) Clearly, each letter of the first group is moved fourteen steps forward to obtain the corresponding letter of the second group.
A similar relationship will exist between the third and fourth groups.

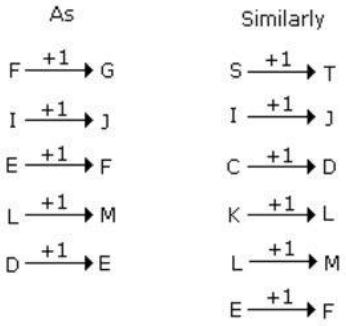
11)



12)

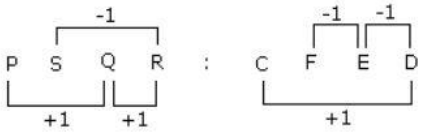


13)

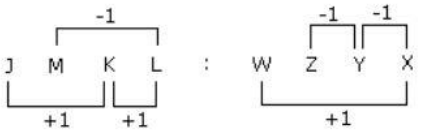


14)

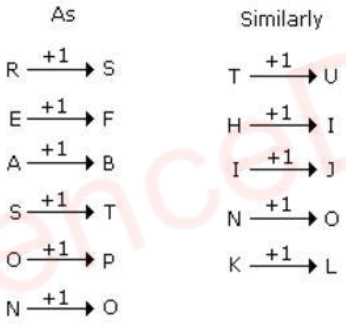
As,



Similarly,



15)



16) $27 \rightarrow 3^3$; $125 \rightarrow 5^3$; $64 \rightarrow 4^3$

Therefore, ? = 6^3 = 216.

17) As, 61 = $(4)^3$ - 3

121 = $(5)^3$ - 4

and 337 = $(7)^3$ - 6

Therefore, ? = $(6)^3$ - 5 = 211

18) As, 68 = $(4)^3$ + 4

130 = $(5)^3$ + 5

and 350 = $(7)^3$ + 7

Therefore, ? = $(6)^3$ + 6 = 222

19) In Equation alphabets positions of K and T are 11 and 20 respectively.
Similarly positions of J and R are 10 and 18.

20)

As 10 : 99 Similarly, 9 : 80

$(10)^2 - 1$ $(9)^2 - 1$

22) As position of M and N in equation alphabets are 13 and 14 respectively.

23) As, 16:56 = (2/7) ; Similarly, 32:112:(2/7)

24) As 24:60 = (2/5) ; Similarly, (120/300) = (2/5)

25) As 335 - 216 = 119

Similarly, 987 - X = 119

Therefore, X = 987 - 119 = 868.

26) As, $(4)^2 + 3 = 19$

Similarly, $(7)^2 + 3 = 52$

27) Here h value 8 + 3 =11,
here j value 10 + 3 =13,
likewise here o value 15+3 =18
and m value 13 + 3 =16

28) As, $123 \rightarrow 13^2$
As, $235 \rightarrow 25^3$
The middle digit of first term becomes power to the next term.

29) First number = 8 and the sum of the digits of the second number is 2 + 8 = 10.
Thus the difference of the first number and the sum of the digits of second number is 10 - 8 = 2.
Similarly, the sum of the digits of third number is 2 + 7 = 9.
Hence the sum of digits of fourth number should be 2 more than 9 i.e. 11
Hence, fourth number is 65.

30)

$3 \xrightarrow{(3)^2+3} 12$

$5 \xrightarrow{(5)^2+5} 30$

Proverb:

1) To keeps one's temper

A. To become hungry

B. To be in good mood

C. To preserve ones energy

D. To be aloof from

2) “A rolling stone gathers no moss” means

A. Someone who does not settle in one place rarely prospers

B. Stone rolling down a hill moves faster

C. One should keep moving forward in his life

D. One should not stop

3) To have an axe to grind

A. A private end to serve

B. To fail to arouse interest

C. To have no result

D. To work for both sides

4) To put one's hand to plough

A. To take up agricultural farming

B. To take a difficult task

C. To get entangled into unnecessary things

D. Take interest in technical work

5) To be above board

A. To have a good height

B. To be honest in any business deal

C. They have no debts

D. To try to be beautiful

6) To cry wolf

A. To listen eagerly

B. To give false alarm

C. To turn pale

D. To keep off starvation

7) A black sheep

A. An unlucky person

B. A lucky person

C. An odd or disreputable member of a group

D. A partner who takes no share of the profits

8) A man of straw

A. A man of no substance

B. A very active person

C. A worthy fellow

D. An unreasonable person

9) To smell a rat

A. To see signs of plague epidemic

B. To get bad small of a bad dead rat

C. To suspect foul dealings

D. To be in a bad mood

10) To hit the nail right on the head

A. To do the right thing

B. To destroy one's reputation

C. To announce one's fixed views

D. To teach someone a lesson

11) To through up the sponge

A. To surrender or give up a contest
B. To offer a challenge
C. To become utterly disappointed
D. To maintain grit and enthusiasm until the end

12) die in harness

A. die on a horse back
B. die in the battlefield
C. die while still working
D. die with honour

13) let the grass grow under his feet.

A. loitered around
B. stayed out
C. sat unmoving
D. moved away

14) blows his own trumpet

A. flatters
B. praises others
C. admonishes others
D. praises himself

15) *to bell the cat*.

A. To take lead in danger.
B. To tie bell to a cat's neck
C. To be alert of the enemy
D. To make noise

16) a snake in the grass

A. a secret enemy

B. a treacherous person

C. an unforeseen danger

D. an unexpected misfortune

17) *made her flesh creep*.

A. Made her sad

B. Surprised her

C. Made her cry bitterly

D. Fill her with horror

18) power behind the throne

A. The person who had the real control and power

B. The acknowledged leader

C. The person who controlled the monarch

D. The person who advised the queen

19) took to his heels

A. opened fire

B. hid himself

C. ran off

D. surrendered

20) have your cake and eat it too

A. Enjoy forever

B. Have it both ways

C. Run away from responsibility

D. Absolve yourself of guilt

21) likely to run into rough weather.

A. create problems

B. encounter difficulties

C. confuse matters

D. makes things difficult

22) *plays fast and loose*.

A. behaves in an unreliable and insincere way

B. has a loose tongue

C. lives a life of ease and luxury

D. does not know how to behave himself

23) *draw the long bow*.

A. understate

B. get emotional

C. exaggerate

D. get excited

24) worth a Jew's eye

A. Not a worthy possession

B. unnecessary

C. A costly items

D. A possession of high value

25) born with a silver spoon in his mouth.

A. born in a middle class family

B. born in a wealthy family

C. born in a royal family

D. born in a family of nationalists

26) Crocodile tears.

A. Pretended sorrow
B. Tears a crocodile
C. A weeping crocodile
D. Mild regret

27) making hay while the sun shines.

A. giving bribes to get his work done
B. seeking advice from one and all
C. helping those who help him
D. making the best use of a favourable situation

28) fair and square

A. Careful
B. Considerate
C. Polite
D. Upright

29) hand in glove

A. very good friends
B. constantly fighting
C. associates in some action
D. suspicious of each other

30) left no stone unturned

A. took no pains
B. did very irrelevant things
C. resorted to illegitimate practices
D. used all available means

ANSWER KEY

1) B	2) A	3) A	4) B	5) B	6) B	7) C	8) A	9) C	10) A
11) A	12) C	13) A	14) D	15) A	16) A	17) D	18) A	19) C	20) B
21) B	22) A	23) C	24) D	25) B	26) A	27) D	28) D	29) A	30) D

Coding and Decoding:

1) If in a certain language, NEOMAN is coded as OGRQFT, which word will be coded as ZKCLUP ?
A. YJBKTO
B. XIAJSN
C. YIZHPJ
D. YIAQKJ

2) If in a certain language CARROM is coded as BZQQNL, which word will be coded as HOUSE ?
A. IPVTF
B. GNTRD
C. INVRF
D. GPTID

3) In a certain code, FORGE is written as FPTJL. How is CULPRIT written in that code ?
A. CSJNPGR
B. CVMQSTU
C. CVNSVNZ
D. CXOSULW

4) If D = 4 and COVER = 63 then BASIS = ?
A. 49
B. 50
C. 54
D. 55

5) If MASTER is coded as 411259, then POWDER will be coded as
A. 765439
B. 765439
C. 765459
D. 765549

6) If GO = 32, SHE = 49, then SOME will be equal to
A. 56
B. 58
C. 62
D. 64

7) If PRATAP could be given the code number 1618120116, What code number can be given to NAVIN ?
A. 14122914
B. 19274651
C. 24639125
D. 73957614

8) If MOBILITY is coded as 46293927, then EXAMINATION is coded as
A. 45038401854
B. 56149512965
C. 57159413955
D. 67250623076

9) If PALAM could be given the code number 43, what code number can be given to SANTACRUZ ?
A. 75
B. 85
C. 120
D. 123

10) If REASON is coded as 5 and BELIEVED as 7, what is the code number for GOVERNMENT ?
A. 6
B. 8
C. 9
D. 10

11) If MISTAKE is coded as 9765412 and NAKED is coded as 84123, How are the following words coded ? INTIMATE
A. 89786145
B. 79438163
C. 78579452
D. 78698365

12) If ENGLAND is written as 1234526 and FRANCE is written as 785291, how is GREECE coded ?
A. 381171
B. 381191
C. 832252
D. 835545

13) If EHFNRQ is the code for BECKON, which word has the code QDFWXULQ ?
A. NCAUTIRN
B. NACUTIRN
C. NATCRIUN
D. NACTURIN

14) If QOSCFLBJO is the code for PORCELAIN, which word is coded as BKMOUSPP ?
A. ALTOLROPY
B. ALLOTROPY
C. ALOTROLPY
D. ATLOROPLY

15) If in a certain code, COVET is written as FRYHW, which word would be written as SHDUO ?
A. QUAKE
B. REPAY
C. STINK
D. PEARL

16) If in a certain language, ITNIETAM is the code for INTIMATE, which word has the code TREVNIETARBI ?
A. INVRETIBRATE
B. INVERTIBARTE
C. INVERTIBRETA
D. INVERTIBRATE

17) If FULFNHW is the code for CRICKET, then EULGH is the code for which word ?
A. PRIDE
B. BRIDE
C. BLADE
D. BLIND

18) In a certain code, REFRIGERATOR is coded as ROTAREGIRFER. Which word would be coded as NOITINUMMA ?
A. ANMOMIUTNI
B. AMNTOMUIIN
C. AMMUNITION
D. NMMUNITION

19) In a code language, DISTANCE is written as IDTUBECN and DOCUMENT is written as ODDVNTNE. How is THURSDAY written in that language ?
A. HTVSTYAD
B. HTTQRYAD
C. HTVSTYAD
D. HTVSYADS

20) In a certain code, 3456 is coded as ROPE, 15526 is coded as APPLE, then how is 54613 coded ?
A. RPPEO
B. ROPEA
C. POEAR
D. PAREO

21) if ZIP=30 and ZAP=38, what will be VIP=?
A. 174
B. 43
C. 34
D. 113

22) In a certain code, 15789 is written as AXBTC, 2346 is written as MPDU. How is 23549 written in that code ?
A. MPXDT
B. MPADC
C. MPXCD
D. MPXDC

23) In a certain code, 33946 is coded as PPOAL and 1987 is coded as ROSE. How is 94678 coded in that code ?
A. ROSEP
B. OALES
C. POALE
D. OSEPL

24) In a certain code, a number 13479 is written as AQFJL and 5268 is written as DMPN. How is 396824 written in that code ?
A. QLPNKJ
B. QLPNMF
C. QLPMNF
D. QLPNDF

25) If eye is called hand, hand is called mouth, mouth is called ear, ear is called nose and nose is called tongue, with which of the following would a person hear ?
A. Eye
B. Mouth
C. Nose
D. Ear

26) If diamond is called gold, gold is called silver, silver is called ruby, ruby is called emerald, which is the cheapest jewel ?
A. Diamond
B. Silver
C. Gold
D. Ruby

27) If rat is called dog, dog is called mongoose, mongoose is called lion, lion is called snake and snake is called elephant, which is reared as pet ?
A. Rat
B. Dog
C. Mongoose
D. Lion

28) If banana is apple, apple is grapes, grapes is mango, mango is nuts, nuts is guava, which of the following is a yellow fruit ?
A. Mango
B. Guava
C. Apple
D. Nuts

29) If eraser is called box, box is called pencil, pencil is called sharpener and sharpener is called bag, what will a child write with ?
A. Eraser
B. Box
C. Pencil
D. Sharpener

30) If water is called blue, blue is called red, red is called white, white is called sky, sky is called rain, rain is called green and green is called air, which of the following is the colour of milk ?
A. Air
B. Sky
C. White
D. Rain

31) If paper is called wood, wood is called straw, straw is called grass, grass is called rubber and rubber is called cloth, what is the furniture made up of ?
A. Paper
B. Wood
C. Straw
D. Grass

32) If cloud is called white, white is called rain, rain is called green, green is called air, air is called blue and blue is called water, where will the birds fly ?
A. Blue
B. Cloud
C. White
D. Rain

33) If 'tee see pee' means 'Drink fruit juice', 'see kee lee' means 'Juice is sweet' and 'lee ree mee' means 'He is intelligent', which word in that language means 'sweet' ?
A. see
B. kee
C. lee
D. pee

34) In a certain code, 'ile be pee' means 'roses are blue'; 'sik hee' means 'red flowers' and 'pee mit hee' means 'flowers are vegetables'. How is 'roses' written in that code ?
A. il
B. pee
C. be
D. Cannot be determined

35) If 'ski rps tri' stands for 'nice Sunday morning'; 'teh sti rps' stands for 'every Tuesday morning' and 'ski ptr qlm' stands for 'nice market place', what would 'Sunday' stands for ?
A. ski
B. rps
C. tri
D. qlm

36) If in a certain code language, 'oka peru' means 'fine cloth' ; 'meta lisa' means 'clear water' and 'dona lisa peru' means 'fine clear weather' , which word in that language means 'weather' ?
A. peru
B. oka
C. meta
D. dona

37) If in a certain code language, '324' means 'Light is bright', '629' means 'Girl is beautiful' and '4758' means 'I prefer bright clothes', which digit means 'Light' in that language ?
A. 3
B. 2
C. 4
D. 7

38) In a certain code, '786' means 'study very hard', '958' means 'hard work pays' and '645' means 'study and work'. Which of the following is the code for 'very' ?
A. 8
B. 6
C. 7
D. Can't be determined

39) In a certain code, '467' means 'leaves are green' ; '485' means 'green is good' and '639' means 'they are playing'. Which digit stands for 'leaves' in that code ?
A. 4
B. 6
C. 7
D. 3

40) In a certain code, '256' means 'you are good' ; '637' means 'we are bad' and '358' means 'good and bad'. Which of the following represents 'and' in that code ?
A. 2
B. 5
C. 8
D. 3

ANSWER KEY

1) C	2) A	3) C	4) B	5) C	6) A	7) A	8) B	9) D	10) C
11) C	12) A	13) D	14) B	15) D	16) D	17) B	18) C	19) C	20) C
21) C	22) D	23) B	24) B	25) C	26) D	27) C	28) D	29) D	30) B
31) C	32) A	33) B	34) D	35) C	36) D	37) A	38) C	39) C	40) C

SOLUTION

1) The first letter is one place, second is two placed, third is three places, fourth is four places, fifth is five places and sixth is six places before the corresponding alphabet in the given code.
Hence, the answer is (c).
(N → O),
(E → F → G),
(O → P → Q → R),
(M → N → O → P → Q),
(A → B → C → D → E → F),
(N → O → P → Q → R → S → T).

Same as
(Y → Z),
(I → J → K),
(Z → A → B → C),
(H → I → J → K → L),
(P → Q → R → S → T → U)

2) Each letter of the word is one step ahead of the corresponding letter of the code.
(B → C), (Z → A), (Q → R), (Q → R), (N → O), (L → M)
similarly
(H → I), (O → P), (U → V), (S → T), (E → F)
So, House is coded IPVTF.

3) Clearly, the first letter in the word FORGE remains as it is and the second, third, fourth and fifth letters are respectively moved one, two, three and four steps forward to obtain the corresponding letters of the code.
Applying the same rule to the letters of the word CULPRIT,
C will remain unchanged, U will be coded as V, (L as N), (P as S), (R as V), (I as N) and (T as Z).
Thus, the code becomes CVNSCNZ.

4) Clearly, in the given code, A = 1, B = 2, C = 3, ... so that
COVER = 3 + 15 + 22 + 5 + 18 = 63
Now, in BASIS, (B = 2), (A = 1), (S = 9), (I = 9).
Thus, BASIS = 2 + 1 + 19 + 9 + 19 = 50.

5) Let A = 1,
B = 2,
C = 3,....., Z = 26.
Now, M = 13 = 4 (remainder obtained after dividing by 9);
S = 19 = 1 (remainder obtained after dividing by 9 twice);
T = 20 = 2 (remainder obtained after dividing by 9 twice);
R = 18 = 9 (remainder obtained after dividing by 9).
So, MASTER = 411259
Similarly, POWDER = 765459.

6) In the given code,
Z = 1,
Y = 2,
X = 3,....., C = 24,
B = 25,
A = 26.
So, Go = 20 + 12 = 32 and
SHE = 8 + 19 + 22 = 49.
Similarly, SOME = 8 + 12 + 14 + 22 = 56.

7) Putting A =1,
B = 2,
C = 3,...., Z = 26,
we have :
PRATAP = 16-18-1-20-1-16 = 1618120116
Similarly, NAVIN = 14-1-22-9-14 = 14122914.

8) Let A = 1,
B = 2,
C = 3,...., X = 24,
Y = 25,

Z = 26.
Then , M = 13 = 1 + 3 = 4;
O = 15 = 1 + 5 = 6;
L = 12 = 1 + 2 = 3;
T = 20 = 2 + 0 = 2;
Y = 25 = 2 + 5 = 7.
So, MOBILITY = 46293927
Similarly, EXAMINATION = 56149512965.

9) In the given code, A = 1,
B = 2,
C = 3,..... , Z = 26
So PALAM = 16 + 1 + 12 + 1 + 13 = 43.
Similarly, SANTACRUZ = 19 + 1 + 14 + 20 + 1 + 3 + 18 + 21 + 26 = 123

10) Code for the given word = (Number of letters in the word) - 1.
So, code for GOVERNMENT = 10 - 1 = 9.

11) The alphabets in the given words are coded as follows :

M	I	S	T	A	K	E	N	D
9	7	6	5	4	1	2	8	3

I is coded as 7,
N as 8,
T as 5,
M as 9,
A as 4 and
E as 2.
So, the code for INTIMATE is 78579452.

12) The alphabets are coded as shown :

E	N	G	L	A	D	F	R	C
1	2	3	4	5	6	7	8	9

So, G is coded as 3,
R as 8,
E as 1 and
C as 9.
Thus, GREECE is coded as 381191

13) Each letter of the word is three steps behind the corresponding letter of the code.

14) In the code, we have alternately one letter one step ahead of and the other the same as the corresponding letter in the word.

15) Each letter of the word is three steps behind the corresponding letter of the code.

16) The letters in the first half and the last half of the code are separately reversed to obtain the word.

17) Each letter of the word is three steps behind the corresponding letter of the code.

18) The word of letters of the word is reversed in the code.
So, reverse the letters in the code to get the word.

19) The place of the first two letters and the sixth and eight letters of the word are interchanged, while the third, fourth and fifth letters are each moved one step forward, to obtain the code.

20) Clearly, in the given figures, the numbers are coded as follows :

3	4	5	6	1	2
R	O	P	E	A	L

i.e. 5 is coded as P, (4 as O), (6 as E), (1 as A) and (3 as R).
So, 54613 as coded as POEAR.

21) If we consider Alphabet sequence number in reverse order than,

A = 26, B = 25, C = 24 .... Z = 1.

So, here

ZIP = 1 + 18 + 11 = 30
ZAP = 1 + 26 + 11 = 38
Hence,
VIP = 5 + 18 + 11 = 34

22) The numbers are coded as shown:

1	5	7	8	9	2	3	4	6
A	X	B	T	C	M	P	D	U

i.e., 2 as M,
3 as P,
5 as X,
4 as D and
9 as C.
So, 23549 is coded as MPXDC.

23) The numbers are coded as shown:

3	9	4	6	1	8	7
P	O	A	L	R	S	E

i.e. 9 as O,
4 as A,
6 as L,
7 as E and
8 as S.
So, 94678 is coded as OALES.

24) In the given codes, the numbers are coded as shown :

1	3	4	7	9	5	2	6	8
A	Q	F	J	L	D	M	P	N

i.e., 3 as Q,
9 as L,
6 as P,
8 as N,
2 as M and
4 as F.
So, 396824 is coded as QLPNMF.

25) A person hears with his 'ear'. But as per the given information, 'ear' is called 'nose'.
So, a person will hear with the 'nose'

26) We know that 'silver' is cheapest. But, as given 'silver' is called 'ruby'.
So, 'ruby' is the cheapest.

27) Clearly, 'dog' is reared as pet.
But 'dog' is called 'mongoose'.
So, a 'mongoose' is reared as pet

28) Clearly, 'mango' is the yellow fruit but 'mango' is called 'nuts'.
So, 'nuts' is the yellow fruit.

29) The child will write with a 'pencil' and 'pencil' is called 'sharpener'.
So the child will write with a 'sharpener'

30) The colour of milk is 'white' and as given 'white' is called 'sky'.
So, the colour of milk is 'sky'

31) The furniture is made up of 'wood' and as given 'wood' is called 'straw'.
So, the sky is made up of 'straw'

32) Clearly, the birds fly in the 'air' and 'air' is called 'blue'.
so, the birds fly in the 'blue'

33) In the first and second statements, the common word is 'Juice' and the common code word is 'see'.
So 'see' means 'Juice'.
In the second and third statements, the common word is 'is' and the common code is 'lee'.
So, 'lee' means 'is'.
Thus, in the second statement, the remaining Since from the given information, we can only find the code for 'are' in the first statement, it cannot be determined which of the remaining two codes for 'roses'. word 'sweet' is coded as 'kee'.

34) Since from the given information, we can only find the code for 'are' in the first statement, it cannot be determined which of the remaining two codes for 'roses'.

35) In the first and second statements, the common code word is 'rps' and the common word is 'morning'.
So, 'rps' means 'morning'
In the first and third statements, common code is 'ski' and the common word is 'nice'.
So, 'ski' means 'nice'.

36) In the first and third statements, the common code word is 'peru' and the common word is 'fine'.
So, 'peru' means 'fine'.

37) In the first and second statements, the common word is 'is' and the common code digit is '2'.
So, '2' means 'is'.
In the first and third statements, the common word is 'bright' and the common code digit is '4'.
So, ''4' means 'bright'.
Thus, in the first statement, '3' means 'Light'

38) In the first and second statement, the common word is 'hard' and the common code digit is '8'.
So, '8' means 'hard'.
In the first and third statements, the common word is 'study' and the common code digit is '6'.
So, '6' means 'study'.
Thus, in the first statement, '7' means 'very'.

39) In the first and second statements, the common code digit is '4' and the common word is 'green'.
So, '4' means 'green'.
In the first and third statements, the common digit is '6' and the common word is 'are'.
So, '6' means 'are'.
Thus, in the first statements, '7' means 'leaves'

40) In the first and third statements, the common code digit is '5' and the common word is 'good'
So, '5' means 'good'.
In the second and third statements, the common code digit is '3' and the common word is 'bad'.
So, '3' means 'bad'.
Thus, in third statement, '8' means 'and'.

Dictionary Arrangement:

1) Arrange the given words in Alphabetical Order and tick the once that comes last.
A. Perpetual
B. Parachute
C. Paragraph
D. Pursue

2) Arrange the given words in Alphabetical Order and tick the once that comes last.
A. Instruction
B. Institution
C. Examination
D. Inference

3) Arrange the given words in Alphabetical Order and tick the once that comes last.
A. Determination
B. Distance
C. Detergent
D. Definite

4) Arrange the given words in Alphabetical Order and tick the once that comes last.
A. Hamper
B. Hesitate
C. Hectic
D. Hunter

5) Arrange the given words in Alphabetical Order and tick the once that comes last.
A. Eventual
B. Extra
C. Entrance
D. Exterminate

6) Arrange the given words in Alphabetical Order and write the last alphabet of the word that comes last.
A. Afford
B. Avoid
C. Answer
D. Awesome

7) Arrange the given words in Alphabetical Order and write the last alphabet of the word that comes last.
A. Language
B. Litter
C. Lieutenant
D. Luggage

8) Arrange the given words in Alphabetical Order and write the last alphabet of the word that comes last.
A. Mother
B. Monitor
C. Monkey
D. Master

9) Arrange the given words in Alphabetical Order and write the last alphabet of the word that comes last.
A. Regard
B. Refer
C. Remind
D. Report

10) Arrange the given words in Alphabetical Order and write the last alphabet of the word that comes last.
A. Demand
B. Destroy
C. Deterred
D. Direct

11) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Niger
B. Narcotic
C. Ninth
D. Never

12) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Fault
B. Fantasy
C. Finger
D. Fascinate

13) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Fault
B. Fantasy
C. Finger
D. Fascinate

14) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Gourd
B. Gesture
C. Gentle
D. Genuine

15) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Stipend
B. Stagger
C. Stabilise
D. Stimulus

16) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Mink
B. Multiple
C. Murder
D. Multitude

17) Arrange the given words in Alphabetical Order and tick the once that comes at the second place.
A. Scissors
B. Scorpion
C. Schedule
D. Semester

18) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Necessary
B. Nature
C. Naval
D. Navigate

19) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Foment
B. Foetus
C. Forceps
D. Foreign

20) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Sport
B. Spouse
C. Squash
D. Sporadic

21) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Grammar
B. Granary
C. Gradient
D. Grand

22) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Jaguar
B. Jockey
C. Javelin
D. Jealous

23) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Qualify
B. Quarter
C. Quarrel
D. Quarry

24) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Launch
B. Laugh
C. Lattice
D. Latent

25) Arrange the given words Alphabetical Order and choose the one that comes first.
A. Conceive
B. Diurnal
C. Conceit
D. Concentrate

26) Arrange the given words Alphabetical Order and write the last alphabet of the word that comes first.
A. Language
B. Laurel
C. Leisure
D. Lapse

27) Arrange the given words Alphabetical Order and write the last alphabet of the word that comes first.
A. Tenacious
B. Terminate
C. Temperature
D. Temple

28) Arrange the given words Alphabetical Order and write the last alphabet of the word that comes first.
A. Slander
B. Skeleton
C. Stimulate
D. Similar

29) Arrange the given words Alphabetical Order and write the last alphabet of the word that comes first.
A. Length
B. Lenient
C. Legacy
D. Legal

30) Arrange the given words Alphabetical Order and write the last alphabet of the word that comes first.
A. Prominent
B. Prohibit
C. Promise
D. Procure

ANSWER KEY

1) D	2) A	3) B	4) D	5) B	6) D	7) D	8) A	9) A	10) D
11) D	12) D	13) D	14) D	15) B	16) B	17) A	18) B	19) B	20) D
21) C	22) A	23) A	24) D	25) C	26) A	27) C	28) D	29) C	30) D

Arithmetic Reasoning:

1) In a chess tournament each of six players will play every other player exactly once. How many matches will be played during the tournament?

A. 12

B. 15

C. 30

D. 36

2) Group of 1200 persons consisting of captains and soldiers is travelling in a train. For every 15 soldiers there is one captain. The number of captains in the group is?

A. 70

B. 75

C. 80

D. 85

3) At the end of a business conference the ten people present all shake hands with each other once. How many handshakes will there be altogether?

A. 20

B. 45

C. 55

D. 90

4) A father is now three times as old as his son. Five years back, he was four times as old as his son. The age of the son is :

A. 12

B. 15

C. 18

D. 20

5) A certain number of horses and an equal number of men are going somewhere. Half of the owners are on their horses' back while the remaining ones are walking along leading their horses. If the number of legs walking on the ground is 70, how many horses are there?

A. 8

B. 10

C. 12

D. 14

6) In a group of cows and hens, the number of legs is 14 more than twice the number of heads. The number of cows is

A. 5

B. 7

C. 10

D. 12

7) In a class, 3/5 of the students are girls and rest is boys. If 2/9 of the girls and 1/4 of the boys are absent, what part of the total number of students is present?

A. 17/25

B. 18/49

C. 23/30

D. 23/36

8) A total of 324 coins of 20 paise and 25 paise make a sum of Rs. 71. The number of 25-paise coins is

A. 120

B. 124

C. 144

D. 200

9) After distributing the sweets equally among 25 children, 8 sweets remain. Had the number of children been 28, 22 sweets would have been left after equal distribution. What was the total number of sweets ?

A. 328

B. 348

C. 358

D. Data inadequate

10) A number consists of two digits whose sum is 11. If 27 is added to the number, then the digits change their places. What is the number ?

A. 47

B. 65

C. 83

D. 92

11) The total of the ages of Amar, Akbar and Anthony is 80 years. What was the total of their ages three years ago ?

A. 71 years

B. 72 years

C. 74 years

D. 77 years

12) In a family, the father took 1/4 of the cake and he had 3 times as much as each of the other members had. The total number of family members is

A. 3

B. 7

C. 10

D. 12

13) A shepherd had 25 sheep. All but eleven died. How many was he left with ?

A. Nil

B. 8

C. 14

D. 11

14) A bird shooter was asked how many birds he had in the bag. He replied that there were all sparrows but six, all pigeons but six, and all ducks but six. How many birds he had in the bag in all?

A. 9

B. 18

C. 27

D. 36

15) What is the smallest number of ducks that could swim in this formation - two ducks in front of a duck, two ducks behind a duck and a duck between two ducks ?

A. 3

B. 5

C. 7

D. 9

16) In a city, 40% of the adults are illiterate while 85% of the children are literate. If the ratio of the adults to that of the children is 2 : 3, then what percent of the population is literate ?

A. 20%

B. 25%

C. 50%

D. 75%

17) In a class, there are 18 boys who are over 160 cm tall. If these constitute three-fourths of the boys and the total number of boys is two-thirds of the total number of students in the class, what is the number of girls in the class ?

A. 6

B. 12

C. 18

D. 24

18) A waiter's salary consists of his salary and tips. During one week his tips were 5/4 of his salary. What fraction of his income came from tips ?

A. 4/9

B. 5/4

C. 5/8

D. 5/9

19) If you write down all the numbers from 1 to 100, then how many times do you write 3 ?

A. 11

B. 18

C. 20

D. 21

20) If 100 cats kill 100 mice in 100 days, then 25 cats would kill 25 mice in how many days ?

A. 1 day

B. 4 days

C. 40 days

D. 100 days

21) 12 year old Manick is three times as old as his brother Rahul. How old will Manick be when he is twice as old as Rahul ?

A. 14 years

B. 16 years

C. 18 years

D. 20 years

22) A pineapple costs Rs. 7 each. A watermelon costs Rs. 5 each. Rahul spends Rs. 38 on these fruits. The number of pineapples purchased is

A. 2

B. 3

C. 4

D. Data inadequate

23) The angle between the minute hand and the hour hand of a clock when the time is 4.20, is:

A. 0º

B. 10º

C. 5º

D. 20º

24) How many times are the hands of a clock at right angle in a day?

A. 22

B. 24

C. 44

D. 48

25) The angle between the minute hand and the hour hand of a clock when the time is 8.30, is:

A. 80º

B. 75º

C. 60º

D. 105º

26) How many times in a day, are the hands of a clock in straight line but opposite in direction?

A. 20

B. 22

C. 24

D. 48

27) A group of birds was sitting on a tree, a hunter killed half birds and out of the remaining again killed half, thereafter only 3 birds were left on the tree. How many birds were initially on the tree?

A. 9

B. 12

C. 15

D. 18

28) Degree covered by hour- hand in 9 hours is

A. 45°

B. 90°

C. 180°

D. 270°

29) How much time will it take for an amount of Rs. 450 to yield Rs. 81 as interest at 4.5% per annum of simple interest?

A. 3.5 years

B. 4 years

C. 4.5 years

D. 5 years

30) The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

A. 23 years

B. 24 years

C. 25 years

D. None of these

31) The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, then the weight of B is:

A. 17 kg

B. 20 kg

C. 26 kg

D. 31 kg

32) The average weight of 16 boys in a class is 50.25 kg and that of the remaining 8 boys is 45.15 kg. Find the average weights of all the boys in the class.

A. 47.55 kg

B. 48 kg

C. 48.55 kg

D. 49.25 kg

33) A pupil's marks were wrongly entered as 83 instead of 63. Due to that the average marks for the class got increased by half (1/2). The number of pupils in the class is:

A. 10

B. 20

C. 40

D. 73

34) A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

A. $\frac{10}{21}$

B. $\frac{11}{21}$

C. $\frac{2}{7}$

D. $\frac{5}{7}$

35) What is the probability of getting a sum 9 from two throws of a dice?

A. $\frac{1}{6}$

B. $\frac{1}{8}$

C. $\frac{1}{9}$

D. $\frac{1}{12}$

36) In a mixture 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quanity of water to be further added is:

A. 20 litres

B. 30 litres

C. 40 litres

D. 60 litres

37) Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

A. 27

B. 33

C. 49

D. 55

38) It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?

A. Sunday

B. Saturday

C. Friday

D. Wednesday

39) On 8th Feb, 2005 it was Tuesday. What was the day of the week on 8th Feb, 2004?

A. Tuesday

B. Monday

C. Sunday

D. Wednesday

40) What was the day of the week on 28th May, 2006?

A. Thursday

B. Friday

C. Saturday

D. Sunday

41) A group of birds was sitting on a tree, a hunter killed half birds and one and out of the remaining again killed half and one, thereafter only 3 birds were left on the tree. How many birds were initially on the tree?

A. 9

B. 12

C. 15

D. 18

42) How many of the following numbers are divisible by 132 ?
264, 396, 462, 792, 968, 2178, 5184, 6336

A. 4

B. 5

C. 6

D. 7

43) On dividing a number by 56, we get 29 as remainder. On dividing the same number by 8, what will be the remainder ?

A. 4

B. 5

C. 6

D. 7

44) $(12)^3 \times 6^4 \div 432^{-1}$ = ?

A. 5184

B. 5060

C. 5148

D. 5084

45) Which one of the following numbers is exactly divisible by 11?

A. 235641

B. 245642

C. 315624

D. 415624

ANSWER KEY

1) B	2) B	3) B	4) B	5) D	6) B	7) C	8) B	9) C
10) A	11) A	12) C	13) D	14) A	15) A	16) D	17) B	18) D
19) C	20) D	21) B	22) C	23) B	24) C	25) B	26) B	27) B
28) D	29) B	30) A	31) D	32) C	33) C	34) A	35) C	36) D
37) B	38) C	39) C	40) D	41) D	42) A	43) B	44) A	45) D

SOLUTION

1) I. matches of first player with other 5 players
II. matches of second player with 4 players other than the first player
III. matches of third player with 3 players other than the first player and second player.
IV. matches of fourth player with 2 players other than the first player, second player and third player.
V. matches of fifth player with 1 player other than the first player, second player, third player and fourth player.
So total matches will be 5+4+3+2+1 = 15

2) Generally we may commit mistake of dividing 1200/15.
But out of 16 persons there is one captain.
so, it will be 1200/16 = 75

3) Clearly, total number of handshakes = (9+ 8 + 7 + 6 + 5 + 4 + 3 + 2+1) = 45.

4) Let son's age be x years. Then, father's age = (3x) years.
Five years ago, father's age = (3x - 5) years and son's age = (x - 5) years.
So, 3x - 5 = 4 (x - 5) ⇔ 3x - 5 = 4x - 20 ⇔ x = 15

5) Let number of horses = number of men = x.

Then, number of legs = 4x + 2 x (x/2) = 5x.

So, 5X = 70 or x = 14.

6) Let the number of cows be x and the number of hens be y.
Then, 4x + 2y = 2 (x + y) + 14 ⇔ 4x + 2y = 2x + 2y + 14 ⇔ 2x = 14 ⇔ x = 7.

7) Girls = 3/5, boys = (1 - 3/5) = 2/5

Fraction of students absent = 2/9 or 3/5 + ¼ = 6/45 + 1/10 = 21/90 = 7/30

Therefore, fraction of students present = (1 - 7/30) = 23/30

8) Let the number of 20-paise coins be x. Then, number of 25-paise coins = (324 - x).
Therefore 0.20 x x + 0.25 (324 - x) = 71 ⇔ 20x + 25 (324 - x) = 7100
⇔ 5x= 1000 ⇔ x = 200. Hence, number of 25-paise coins = (324 - x) - 124

9) Let the total number of sweets be (25x + 8).

Then, (25x + 8) - 22 is divisible by 28

⇔ (25x - 14) is divisible by 28 ⇔ 28x - (3x + 14) is divisible by 28

⇔ (3x + 14) is divisible by 28 ⇔ x = 14.

Therefore Total number of sweets = (25 x 14 + 8) = 358

10) Let the ten's digit be x. Then, unit's digit = (11 - x).
So, number = 10x + (11 - x) = 9x + 11.
Therefore (9x + 11) + 27 = 10 (11 - x) + x ⇔ 9x + 38 = 110 - 9x ⇔ 18x = 72 ⇔ x = 4.
Thus, ten's digit = 4 and unit's digit = 7.
Hence, required number = 47

11) Required sum = (80 - 3 x 3) years = (80 - 9) years = 71 years

12) Let there be (x + 1) members. Then,

Father's share = 1/4, share of each member = 3/4x

Therefore, $3\left(\frac{3}{4x}\right) = \frac{1}{4} \Rightarrow 4x = 36 \Rightarrow x = 9$

Hence, total number of family members = 10

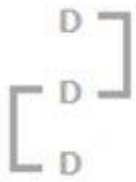
13) 'All but eleven died' means 'All except eleven died' i.e. 11 sheep remained alive.

14) There were all sparrows but six' means that six birds were not sparrows but only pigeons and ducks.

Similarly, number of sparrows + number of ducks = 6 and number of sparrows + number of pigeons = 6.

This is possible when there are 3 sparrows, 3 pigeons and 3 ducks i.e. 9 birds in all.

15) Clearly, the smallest such number is 3.



Three ducks can be arranged as shown above to satisfy all the three given conditions.

16) Let the number of adults and children be 2x and 3x respectively.

Then, literate population = (100 - 40)% of 2x + 85% of 3x

$$= \left(\frac{60}{100} \times 2x\right) + \left(\frac{85}{100} \times 3x\right) = \frac{6x}{5} + \frac{51x}{20} = \frac{75x}{20}$$

Therefore, required percentage = $\left(\frac{75x}{100} \times \frac{1}{5x} \times 100\right)\%$ = 75%

17) Let the number of boys be x. Then, (3/4)x = 18 or x = 18 x(4/3) = 24.

If total number of students is y, then (2/3) y = 24 or y = 24 x (3/2) = 36.

Therefore Number of girls in the class = (36 - 24) = 12

18) Let salary = Rs. x

Then tips = Rs. $\left(\frac{5}{4}x\right)$

Total income = Rs. $\left(x+\frac{5}{4}x\right)$ = Rs. $\left(\frac{9x}{4}\right)$

Therefore, required fraction = $\left(\frac{5x}{4}\times\frac{4}{9x}\right)=\frac{5}{9}$

19) Clearly, from 1 to 100, there are ten numbers with 3 as the unit's digit- 3, 13, 23, 33, 43, 53, 63, 73, 83, 93; and ten numbers with 3 as the ten's digit - 30, 31, 32, 33, 34, 35, 36, 37, 38, 39.
So, required number = 10 + 10 = 20

20) Less cats, more days (indirect proportion)

Less mice, less days (direct proportion)

Let the required number of days be x.

$$\left.\begin{matrix} Cat & 4 & : & 100 \\ Mice & 100 & : & 4 \end{matrix}\right\} :: x : 100$$

Therefore, 100 x 4 x x = 4 x 100 x 10 or x = $\left(\frac{4\times100\times100}{100\times4}\right)$ = 100

21) Manick's present age = 12 years, Rahul's present age = 4 years.
Let Manick be twice as old as Rahul after x years from now.
Then, 12 + x = 2 (4 + x) ⇔ 12 + x = 8 + 2x ⇔ x = 4.
Hence, Manick's required age = 12 + x = 16 years.

22) Let the number of pineapples and watermelons be x and y respectively.

Then, 7x + 5y = 38 or 5y = (38 - 7x) or y = $\frac{38-7x}{5}$

Clearly, y is a whole number, only when (38 - 7x) is divisible by 5

This happens when x = 4

23) Angle traced by hour hand in $\frac{13}{3}$ hrs = $\left(\frac{360}{12}\text{ x }\frac{13}{3}\right)^{\circ}$ = 130º.

Angle traced by min. hand in 20 min. = $\left(\frac{360}{60}\text{ x }20\right)^{\circ}$ = 120º.

∴ Required angle = (130 - 120)º = 10º.

24) In 12 hours, the hands coincide or are in opposite direction 22 times.

∴ In 24 hours, the hands coincide or are in opposite direction 44 times a day.

25) Angle traced by hour hand in $\frac{17}{2}$ hrs = $\left(\frac{360}{12} \times \frac{17}{2}\right)^{\circ}$ = 255.

Angle traced by min. hand in 30 min. = $\left(\frac{360}{60} \times 30\right)^{\circ}$ = 180.

$\therefore$ Required angle = (255 - 180)º = 75º.

26) In 12 hours, the hands coincide or are in opposite direction 22 times.

$\therefore$ In 24 hours, the hands coincide or are in opposite direction 44 times a day.

27) There were 12 birds initially, when half killed, then 6 left and again when half killed, 3 are left

28) In one hour it moves $\frac{360}{12} = 30^{\circ}$

In 9 hours = 9 x 30 = 270°

29) Time = $\left(\frac{100 \times 81}{450 \times 4.5}\right)$years = 4 years

30) Let the average age of the whole team by *x* years.

$\therefore$ 11*x* - (26 + 29) = 9(*x* -1)

$\Rightarrow$ 11*x* - 9*x* = 46

$\Rightarrow$ 2*x* = 46

$\Rightarrow$ *x* = 23.

So, average age of the team is 23 years.

31) Let A, B, C represent their respective weights. Then, we have:

A + B + C = (45 x 3) = 135 .... (i)

A + B = (40 x 2) = 80 .... (ii)

B + C = (43 x 2) = 86 ....(iii)

Adding (ii) and (iii), we get: A + 2B + C = 166 .... (iv)

Subtracting (i) from (iv), we get : B = 31.

$\therefore$ B's weight = 31 kg

32) Required average = $\left(\frac{50.25 \times 16 + 45.15 \times 8}{16 + 8}\right)$

$= \left(\frac{804 + 361.20}{24}\right)$

$= \frac{1165.20}{24}$

33) Let there be *x* pupils in the class.

Total increase in marks = $\left(x \times \frac{1}{2}\right) = \frac{x}{2}$

$\therefore$ $\frac{x}{2}$ = (83 - 63) $\Rightarrow$ $\frac{x}{2}$ = 20 $\Rightarrow$ *x*= 40.

34) total number of balls = (2 + 3 + 2) = 7.

Let S be the sample space.

Then, $n(S)$ = Number of ways of drawing 2 balls out of 7

$= {}^{7}C_{2}$ `

$= \frac{(7 \times 6)}{(2 \times 1)}$

$= 21.$

Let E = Event of drawing 2 balls, none of which is blue.

$\therefore$ $n(E)$ = Number of ways of drawing 2 balls out of (2 + 3) balls.

$= {}^{5}C_{2}$

$= \frac{(5 \times 4)}{(2 \times 1)}$

$= 10.$

$\therefore$ $P(E) = \frac{n(E)}{n(S)} = \frac{10}{21}$.

35) In two throws of a dice, $n(S) = (6 \times 6) = 36$.

Let E = event of getting a sum ={(3, 6), (4, 5), (5, 4), (6, 3)}.

Therefore, $P(E) = \frac{n(E)}{n(S)} = \frac{4}{36} = \frac{1}{9}$

36) Quantity of milk = $\left(60 \times \frac{2}{3}\right) litres$ = 40 litres

Quantity of water in it = (60 - 40) litres = 20 litres

New ratio = 1 : 2

Let quantity of water to be added further be x litres

Then, milk : water = $\left(\frac{40}{20+x}\right)$

Now, $\left(\frac{40}{20+x}\right) = \frac{1}{2}$ ⇨ 20 + x = 80

Therefore, quantity of water to be added = 60 litres

37) Let the numbers be 3*x* and 5*x*.

Then, $\frac{3x-9}{5x-9} = \frac{12}{23}$ ⇨ 23(3x - 9) = 12(5x - 9)

⇨ 9x = 99 ⇨ x = 11

Therefore, the smaller number = 3 x 11 = 33

38) On 31st December, 2005 it was Saturday.

Number of odd days from the year 2006 to the year 2009 = (1 + 1 + 2 + 1) = 5 days.

∴ On 31st December 2009, it was Thursday.
Thus, on 1st Jan, 2010 it is Friday.

39) The year 2004 is a leap year. It has 2 odd days.

∴ The day on 8th Feb, 2004 is 2 days before the day on 8th Feb, 2005.

Hence, this day is Sunday.

40) 28 May, 2006 = (2005 years + Period from 1.1.2006 to 28.5.2006)
Odd days in 1600 years = 0
Odd days in 400 years = 0
5 years = (4 ordinary years + 1 leap year) = (4 x 1 + 1 x 2) ≡ 6 odd days

Jan. Feb. March April May
(31 + 28 + 31 + 30 + 28) = 148 days

∴ 148 days = (21 weeks + 1 day) ≡ 1 odd day.
Total number of odd days = (0 + 0 + 6 + 1) = 7 ≡ 0 odd day.
Given day is Sunday.

41) There were 18 birds, hunter killed half plus 1, i.e, 8 birds left. Again half plus 1 killed, i.e., 3 birds left.

So, there were 18 birds.

42) 132 = 4 x 3 x 11

So, if the number divisible by all the three number 4, 3 and 11, then the number is divisible by 132 also.

264 → 11,3,4 (/)

396 → 11,3,4 (/)

462 → 11,3 (X)

792 → 11,3,4 (/)

968 → 11,4 (X)

2178 → 11,3 (X)

5184 → 3,4 (X)

6336 → 11,3,4 (/)

Therefore the following numbers are divisible by 132 : 264, 396, 792 and 6336.

Required number of number = 4.

43) Formula: (Divisor*Quotient) + Remainder = Dividend.

(56*Q)+29 = D -------(1)

D%8 = R ----------(2)

From equation(2),

((56*Q)+29)%8 = R.

=> Assume Q = 1.

=> (56+29)%8 = R.

=> 85%8 = R

=> 5 = R.

44) Given expression, = $\frac{(12)^3 \times 6^4}{432} = \frac{(12)^3 \times 6^4}{12 \times 6^2}$

= $(12)^2 \times 6^2 = 5184$

45) (4 + 5 + 2) - (1 + 6 + 3) = 1, not divisible by 11.

(2 + 6 + 4) - (4 + 5 + 2) = 1, not divisible by 11.

(4 + 6 + 1) - (2 + 5 + 3) = 1, not divisible by 11.

(4 + 6 + 1) - (2 + 5 + 4) = 0, So, 415624 is divisible by 11.

Number Sequence

1) In a row of trees, one tree is fifth from either end of the row. How many trees are there in the row ?
A. 8

B. 9

C. 10

D. 11

2) In a queue, Amrita is 10th from the front while Mukul is 25th from behind and Mamta is just in the middle of the two. If there be 50 persons in the queue. What position does Mamta occupy from the front ?
A. 20th

B. 19th

C. 18th

D. 17th

3) Sanjeev ranks seventh from the top and twenty eight from the bottom in a class. How many students are there in the class ?
A. 37

B. 36

C. 35

D. 34

4) Manisha ranked sixteenth from the top and twenty ninth from the bottom among those who passed an examination. Six boys did not participate in the competition and five failed in it. How many boys were there in the class ?
A. 40

B. 44

C. 50

D. 55

5) Which is the third number to the left of the number which is exactly in the middle of the following sequence of numbers ?
1 2 3 4 5 6 7 8 9 2 4 6 8 9 7 5 3 1 9 8 7 6 5 4 3 2 1
A. 3

B. 4

C. 5

D. 6

6) How many 3's are there in the following sequence which are neither preceded by 6 nor immediately followed by 9 ?
9 3 6 6 3 9 5 9 3 7 8 9 1 6 3 9 6 3 9
A. One

B. Two

C. Three

D. Four

7) Count each 7 which is not immediately preceded by 5 but is immediately followed by either 2 or 3.
How many such 7's are there ?
5 7 2 6 5 7 3 8 3 7 3 2 5 7 2 7 3 4 8 2 6 7 8
A. 2

B. 3

C. 4

D. 5

8) How many 6's are there in the following series of numbers which are preceded by 7 but not immediately followed by 9 ?
6 7 9 5 6 9 7 6 8 7 6 7 8 6 9 4 6 7 7 6 9 5 7 6 3
A. One

B. Two

C. Three

D. Four

9) How many 7's are there in the following series which are not immediately followed by 3 but immediately preceded by 8 ?
8 9 8 7 6 2 2 6 3 2 6 9 7 3 2 8 7 2 7 7 8 7 3 7 7 9 4
A. 10

B. 3

C. 2

D. 0

10) Count each 1 in the following sequence of numbers that is immediately followed by 2, if 2 is not immediately followed by 3. How many such 1's are there ?
1 2 1 3 4 5 1 2 3 5 2 1 2 6 1 4 5 1 1 2 4 1 2 3 2 1 7 5 2 1 2 5
A. 2

B. 4

C. 5

D. 7

11) How many 7's are there in the following series which are preceded by 6 which is not preceded by 8 ?
8 7 6 7 8 6 7 5 6 7 9 7 6 1 6 7 7 6 8 8 6 9 7 6 8 7
A. Nil

B. One

C. Two

D. Three

12) In the following list of numerals, how many 2's are followed by 1's but not preceded by 4 ?
4 2 1 2 1 4 2 1 1 2 4 4 4 1 2 2 1 2 1 4 4 2 1 4 2 1 2 1 2 4 1 4 2 1 2 4 1 4 6
A. Two

B. Three

C. Four

D. Five

13) How many 7's are there in the following sequence which are preceded by 9 and followed by 6 ?
7 8 9 7 6 5 3 4 2 8 9 7 2 4 5 9 2 9 7 6 4 7
A. 2

B. 3

C. 4

D. 5

14) How many 6's are there in the following number sequence which are immediately preceded by 9 but not immediately followed by 4 ?
5 6 4 3 2 9 6 3 1 6 4 9 6 4 2 1 5 9 6 7 2 1 4 7 4 9 6 4 2
A. One

B. Two

C. Three

D. Four

15) In the following series of numbers, find out how many times, 1, 3 and 7 have appeared together, 7 being in the middle and 1 and 3 on either side of 7 ?
2 9 7 3 1 7 3 7 7 1 3 3 1 7 3 8 5 7 1 3 7 7 1 7 3 9 0 6
A. 3

B. 4

C. 5

D. More than 5

16) A number is greater than 3 but less than 8. Also, it is greater than 6 but less than 10. The number is
A. 5

B. 6

C. 7

D. 8

17) In a class of 60, where girls are twice that of boys, Kamal ranked seventeenth from the top. if there are 9 girls ahead of Kamal, how many boys are after him in rank ?
A. 3

B. 7

C. 12

D. 23

18) In a row of ten boys, when Rohit was shifted by two places towards the left, he became seventh from the left end. What was his earlier position from the right end of the row ?
A. First

B. Second

C. Fourth

D. Sixth

19) In a queue of children, Kashish is fifth from the left and Mona is sixth from the right. When they interchange their places among themselves, Kashish becomes thirteenth from the left. Then, waht will be Mona's position from the right ?
A. 4th

B. 8th

C. 14th

D. 15th

20) In a row of boys, Kapil is eighth from the right and Nikunj is twelfth from the left. When Kapil and Nikunj interchange positions, Nikunj becomes twenty first from the left. Which of the following will be Kapil's position from the right ?
A. 8th

B. 17th

C. 21st

D. Cannot be determined

ANSWER KEY

1) B	2) C	3) D	4) D	5) B	6) B	7) A	8) C	9) C	10) B
11) D	12) C	13) A	14) B	15) A	16) C	17) C	18) B	19) C	20) B

SOLUTION

1) Clearly, number of trees in the row = (4 + 1 + 4) = 9

2) Number of persons between Amrita and Mukul = 50 - (10 + 25) = 15. Since Mamta lies in middle of these 15 persons, so Mamta`s position is 8th from Amrita i.e. 18th from the front

3) Clearly, number of students in the class = (6 + 1 + 27) = 34

4) Number of boys who passed = (15 + 1 + 28) = 44. .'. Total number of boys in the class = 44 + 6 + 5 = 55.

5) There are 27 numbers in the given sequence.
So, middle number = 14th number = 9.
Clearly, the third number to the left of this 9 is 4.

6) 9 **3** 6 6 3 9 5 9 **3** 7 8 9 1 6 3 9 6 3 9

7) 5 7 2 6 5 7 3 8 3 **7** 3 2 5 7 2 **7** 3 4 8 2 6 7 8

8) 6 7 9 5 6 9 7 **6** 8 7 **6** 7 8 6 9 4 6 7 7 6 9 5 7 **6** 3

9) 8 9 8 **7** 6 2 2 6 3 2 6 9 7 3 2 8 **7** 2 7 7 8 7 7 7 9 4

10) **1** 2 1 3 4 5 1 2 3 5 2 **1** 2 6 1 4 5 1 **1** 2 4 1 2 3 2 1 7 5 2 **1** 2 5

11) 8 7 6 **7** 8 6 7 5 6 **7** 9 7 6 **1** 6 **7** 7 6 8 8 6 9 7 6 8 7

12) 4 2 1 **2** 1 4 2 1 1 2 4 4 4 1 2 **2** 1 **2** 1 4 4 2 1 4 2 1 **2** 1 2 4 1 4 2 1 2 4 1 4 6

13) 7 8 9 **7** 6 5 3 4 2 8 9 7 2 4 5 9 2 9 **7** 6 4 7

14) 5 6 4 3 2 9 6 3 1 6 4 9 **6** 4 2 1 5 9 6 7 2 1 4 7 4 9 **6** 4 2

15) 2 9 7 3 1 **7** 3 7 7 1 3 3 1 **7** 3 8 5 7 1 3 7 7 1 **7** 3 9 0 6

16) According to first condition, the number is greater than 3 but less than 8. such numbers are 4, 5, 6, 7.
According to the second condition, the number is greater than 6 but less than 10. Such numbers are 7, 8 ,9.
Clearly, the required number is the number satisfying both the above conditions i.e., 7.

17) Let the number of boys be x. Then, numbers of girls = 2x.
.'. x + 2x = 60 or 3x = 60 or x = 20.
So, number of boys = 20 and numbers of girls = 40.

Number of students behind Kamal in rank = (60 - 17) = 43.
Number of girls ahead of Kamal in rank = 9.
Number of girls behind Kamal in rank = 40 - 9 = 31.
.'. Number of boys behind Kamal in rank = 43 - 31 = 12.

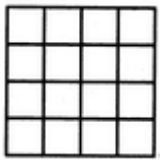
18) Number of boys in the row = 10.
Rohit's new position is 7th from the left or 4th from the right.
His earlier position was two places to the right of his new position i.e., his earlier position was second from the right.

19) Since Kashish and Mona interchange places, so Kashish's new position (13th from left) is the same as Mona's earlier position (6th from right).
So, number of children in the queue = (12 + 1 + 5) = 18.
Now, Mona's new position is the same as Kashish's earlier position i.e., fifth from left.
.'. Mona's position from the right = (18 - 4) = 14th.

20) Since Kapil and Nikunj interchange places, so Nikunj's new position (21st from left) is the same as Kapil's earlier positon (8th from right).
So, number of boys in the row = (20 + 1 + 7) = 28.
Now, Kapiil's new position is the same as Nikunj's earlier position i.e. 12th from left.
.'. Kapil's position from the right = (28 - 11) = 17th.

Counting Figures:

1) Count the number of squares in the given figure.



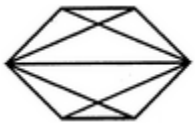
A. 32

B. 30

C. 29

D. 28

2) Find the number of quadrilaterals in the given figure.



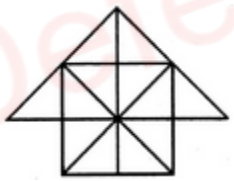
A. 6

B. 7

C. 9

D. 11

3) Count the number of triangles in the given figure.



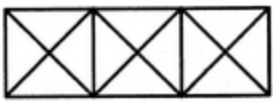
A. 26 triangles

B. 24 triangles

C. 26 triangles

D. 28 triangles

4) Count the number of triangles in the given figure.



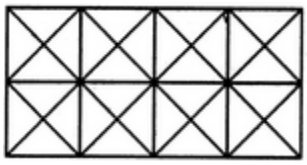
A. 26 triangles

B. 24 triangles

C. 28 triangles

D. 22 triangles

5) Count the number of squares in the given figure.



A. 11

B. 21

C. 24

D. 26

6) Count the number of rectangles in the given figure.

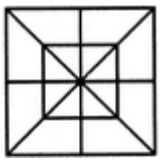
A. 20

B. 18

C. 16

D. 15

7) Count the number of squares in the given figure.



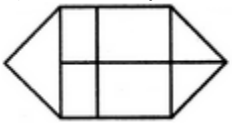
A. 10 squares

B. 8 squares

C. 10 squares

D. 8 squares

8) How many rectangles are there in the given figure.



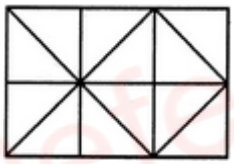
A. 10

B. 9

C. 8

D. 7

9) Count the number of squares in the given figure.



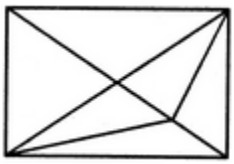
A. 6

B. 7

C. 9

D. 10

10) Find the number of triangles in the given figure.



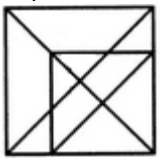
A. 11

B. 13

C. 15

D. 17

11) Find the number of triangles in the given figure.



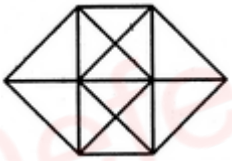
A. 16

B. 18

C. 19

D. 21

12) Find the number of triangles in the given figure.



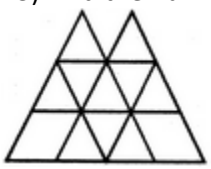
A. 20

B. 24

C. 28

D. 32

13) Find the number of triangles in the given figure.



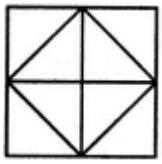
A. 16

B. 18

C. 14

D. 15

14) Find the number of triangles in the given figure.



A. 8

B. 10

C. 12

D. 14

15) Find the number of triangles in the given figure.

A. 5

B. 6

C. 8

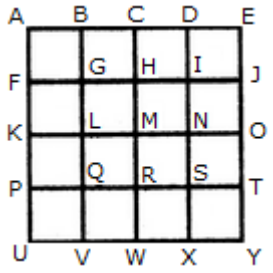
D. 10

ANSWER KEY

1) B	2) D	3) D	4) C	5) C
6) A	7) C	8) B	9) C	10) C
11) D	12) C	13) B	14) C	15) D

SOLUTION

1) The figure may be labelled as shown.



The simplest squares are ABGF, BCHG, CDIH, DEJI, FGLK, GHML, HINM, IJON, KLQP, LMRQ, MNSR, NOTS, PQVU, QRWV, RSXW and STYX i.e. 16 in number.

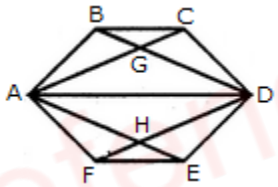
The squares composed of four components each are ACMK, BDNL, CEOM, FHRP, GISQ, HJTR, KMWU, LNXV and MOYW i.e. 9 in number.

The squares composed of nine components each are ADSP, BETQ, FIXU and GJYV i.e. 4 in number.

There is one square AEYU composed of sixteen components.

There are 16 + 9 + 4 + 1 = 30 squares in the given figure.

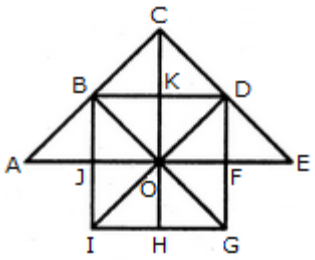
2) The figure may be labelled as shown.



The quadrilaterals in the figure are ABCD, ABDE, ABDF, ABDH, CDHA, CDEA, CDFA, DEAG, DEFA, FAGD and AGDH.

The number of quadrilaterals in the figure is 11.

3) The figure may be labelled as shown.



Triangles:

The simplest triangles are JBO, BKO, KDO, DFO, FGO, GHO, HIO, IJO, ABJ, BCK, CKD and DEF i.e.12 in number.

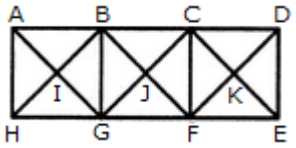
The triangles composed of two components each are IBO, BDO, DGO, GIO, ABO, CDO, CBO, CBD and DEO i.e. 9 in number.

The triangles composed of four components each are IBD, BDG, DGI, GIB, ACO and COE i.e. 6 in number.

There is only one triangle i.e. ACE composed of eight components.

Thus, there are 12 + 9 + 6 + 1 = 28 triangles in the given figure.

4) The figure may be labelled as shown.



Triangles :

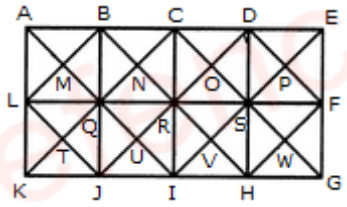
The, simplest triangles are ABI, BGI, GHI, HAI, BCJ, CFJ, FGJ, GBJ, CDK, DEK, EFK and FCK i.e. 12 in number.

The triangles composed of two components each are ABG, BGH, GHA, HAB, BCF, CFG, FGB, GBC, CDE, DEF, EFC and FGD i.e. 12 in number.

The triangles composed of four components each are AGC, BFD, HBF and GCE i.e.4 in number.

Thus, there are 12 + 12 + 4 = 28 triangles in the given figure.

5) The figure may be labelled as shown.



The squares composed of two components each are BNQM, CORN, DPSO, MQTL, NRUQ, OSVR, PFWS, QUJT, RVIU and SWHV i.e. 10 in number.

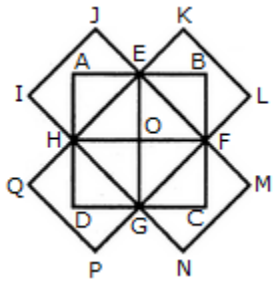
The squares composed of four components each are ABQL, BCRQ, CDSR, DEFS, LQJK, QRIJ, RSHI and SFGH i.e. 8 in number.

The squares composed of eight components each are BRJL, CSIQ and DFHR i.e. 3 in number.

The squares composed of sixteen components each are ACIK, BDHJ and CEGI i.e. 3 in number.

Thus, there are 10 + 8 + 3 + 3 = 24 squares in the figure.

6) The figure may be labelled as shown.



The rectangles composed of two components each are HIJE, EKJ,F, FMNG, GPQH, AEOH, EBFO, OFCG and HOGD i.e. 8 in number.

The rectangles composed of four components each are ABFH, BCGE, CDHF, DAEG and EFGH i.e. 5 in number.

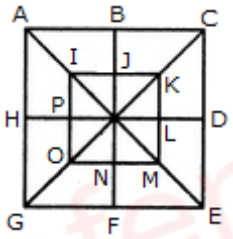
The rectangles composed of six components each are IJFG, KLGH, MNHE and PQEF i.e. 4 in number.

The rectangles composed of eight components each are IJMN, KLPQ and ABCD i.e. 3 in number.

Thus, there are 8 + 5 + 4 + 3 = 20 rectangles in the given figure.

(Here note that the squares are also counted amongst rectangles)

7) The figure may be labelled as shown.



Squares :

The squares composed of two components each are IJQP, JKLQ, QLMN and PQNO i.e. 4 in number.

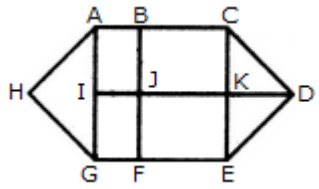
The squares composed of four components each are ABQH, BCDQ, QDEF and HQFG i.e. 4 in number.

There is only one square i.e. IKMO composed of eight components.

There is only one square i.e. ACEG composed of sixteen components.

Thus, there are 4 + 4 + 1 + 1= 10 squares in the given figure.

8) The figure may be labelled as shown.



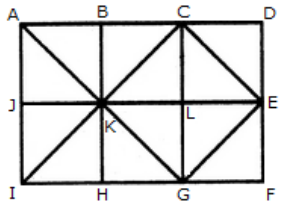
The simplest rectangles are ABJI, BCKJ, IJFG and JKEF i.e. 4 in number.

The rectangles composed of two components each are ACKI, BCEF, IKEG and ABFG i.e. 4 in number.

The only rectangle composed of four components is ACEG.

Thus, there are 4 + 4 + 1 = 9 rectangles in the given figure.

9) The figure may be labelled as shown.



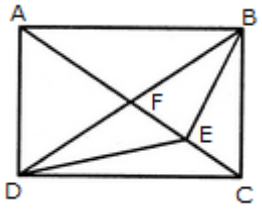
The squares composed of two components each are ABKJ, BCLK, CDEL, LEFG, KLGH and JKHI i.e.6 in number.

There is only one square i.e. CEGK composed of four components.

The squares composed of eight components each are ACGI and BDFH i.e. 2 in number.

There are 6 + 1 + 2 = 9 squares in the figure.

10) The figure may be labelled as shown.



The simplest triangles are AFB, FEB, EBC, DEC, DFE and AFD i.e. 6 in number.

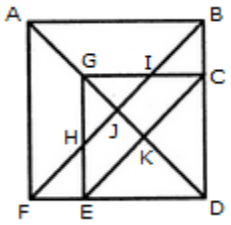
The triangles composed of two components each are AEB, FBC, DFC, ADE, DBE and ABD i.e. 6 in number.

The triangles composed of three components each are ADC and ABC i.e. 2 in number.

There is only one triangle i.e. DBC which is composed of four components.

Thus, there are 6 + 6 + 2 + 1 = 15 triangles in the figure.

11) The figure may be labelled as shown.



The simplest triangles are EFH, BIC, GHJ, GIJ, EKD and CKD i.e. 6 in number.

The triangles composed of two components each are ABJ, AFJ, GCK, GEK, CED arid GHI i.e. 6 in number.

The triangles composed of three components each are GCD, GED, DJB and DJF i.e. 4 in number.

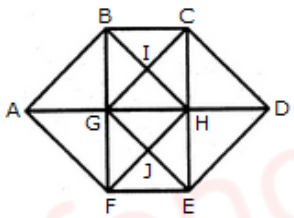
The triangles composed of four components each are ABF and GCE i.e. 2 in number.

The triangles composed of five components each are ABD and AFD i.e. 2 in number.

There is only one triangle i.e. FBD composed of six components.

Total number of triangles in the figure = 6 + 6 + 4 + 2 + 2 + 1 = 21.

12) The figure may be labelled as shown.



The simplest triangles are ABG, BIG, BIC, CIH, GIH, CDH, HED, GHJ, HJE, FEJ, GFJ and AGF i.e. 12 in number.

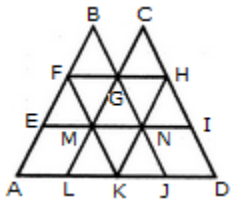
The triangles composed of two components each are ABF, CDE, GBC, BCH, GHG, BHG, GHF, GHE, HEF and GEF i.e. 10 in number.

The triangles composed of three components each are ABH, AFH, CDG and GDE i.e. 4 in number.

The triangles composed of four components each are BHF and CGE i.e. 2 in number.

Total number of triangles in the figure = 12 + 10 + 4 + 2 = 28.

13) The figure may be labelled as shown.



The simplest triangles are BFG, CGH, EFM, FMG, GMN, GHN, HNI, LMK, MNK and KNJ i.e. 10 in number.

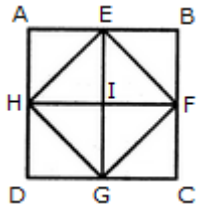
The triangles composed of three components each are FAK and HKD i.e. 2 in number.

The triangles composed of four components each are BEN, CMI, GLJ and FHK i.e. 4 in number.

The triangles composed of eight components each are BAJ and OLD i.e. 2 in number.

Thus, there are 10 + 2 + 4 + 2 = 18 triangles in the given figure

14) The figure may be labelled as shown.



The simplest triangles are AEH, EHI, EBF, EFI, FGC, IFG, DGH and HIG i.e. 8 in number.

The triangles composed of two components each are HEF, EFG, HFG and EFG i.e. 4 in number.

Thus, there are 8 + 4 = 12 triangles in the figure.

15) The figure may be labelled as shown.

The simplest triangles are AJF, FBG, GCH, HDI and IEJ i.e. 5 in number.

The triangles composed of three components each EBH, AIC, EFC, ADG and BJD i.e. 5 in number.

Thus, there are 5 + 5 = 10 triangles in the figure.

Unscrambling words

Find out a meaning full word from the below-given word.

1) Stkabelabl (Hint: a game played between two teams of five players in which goals are scored by throwing a ball through a netted hoop fixed at each end)

2) Goankaro (Hint: national animal of Australia)

3) Rmatenlweo (Hint: plant of the gourd family, with smooth green skin, red pulp, and watery juice)

4) Tesaiellt (Hint: a celestial body orbiting the earth or another planet)

5) Trafgin (Hint: An adventurous sport)

6) Alfoecuilwr (Hint: A vegetable)

7) Rtaiug (Hint: a stringed musical instrument)

8) Noistevile (Hint: An electronic device)

9) Nvoel (Hint: a long printed story about imaginary characters and events)

10) olaedpr (Hint: A large spotted cat)

11) Utaqrakehe (Hint: A natural calamity)

12) Aehlnpet (Hint: A mammal)

13) Aparphrga (Hint: a distinct section of a piece of writing)

14) Legeclo (Hint: An educational institution)

15) Enaxpsoho (Hint: A musical instrument)

16) Kiyend (Hint: An organ which filters blood)

17) Uneipgn (Hint: a large bird which cannot fly)

18) Cpkceoa (Hint: National bird of India)

19) Alarke (Hint: A state in India)

20) Aeorgn (A citrus fruit)

ANSWERS

1) BASKETBALL	2) KANGAROO	3) WATERMELON	4) SATELLITE
5) RAFTING	6) CAULIFLOWER	7) GUITAR	8) TELEVISION
9) NOVEL	10) LEOPARD	11) EARTHQUAKE	12) ELEPHANT
13) PARAGRAPH	14) COLLEGE	15) SAXOPHONE	16) KIDNEY
17) PENGUIN	18) PEACOCK	19) KERALA	20) ORANGE

Mathematical Substitution

1) If - means x, x means +, + means ÷ and ÷ means -, then what will be the value of 312 +3 ÷ 60

A. 4 4

B. 7.95

C. 1 6

D. 4 2

2) If + means ÷ , ÷ means -, - means x and x means + then 36x12+3 ÷ 5-2=?

A. 8 5

B. 2 2

C. 3 0

D. 9 3

3) If + means ÷ , ÷ means -, - means x and x means +, what will be the value of the following expression 75+ 5x3-4 ÷ 6?

A. 2 0

B. 2 1

C. 2 5

D. 12. 5 4

4) If '+' means 'minus', '×' means 'divided by', '÷' means 'plus' and '–' means 'multiplied by', then which of the following will be the value of the expression 252 × 9 – 5 + 32 ÷ 92?

A. 95

B. 168

C. 192

D. 200

5) If ÷ means +, x means -, + means x and - means ÷ then 15-5 +2x3 ÷ 2=?

A. 3 6

B. 1 3

C. 5

D. 4 5

6) If + means ÷ , x means -, ÷ means x and - means +, Then 5-12+2x3 ÷ 3=?

A. 2 2

B. 3 2

C. 15. 9

D. 2

7) If + means ×, × means –, ÷ means + and – means ÷, then which of the following gives the result of 175 – 25 ÷ 5 + 20 × 3 + 10?

A. 77

B. 160

C. 240

D. 2370

8) If × stands for 'addition', ÷ stands for 'subtraction', + stands for 'multiplication' and - stands for 'division', then 20 × 8 ÷ 8 - 4 + 2 = ?

A. 80

B. 25

C. 24

D. 5

9) If - means ×, × means +, + means ÷ and ÷ means -, then 40 × 12 + 3 - 6 ÷ 60 = ?

A. 7.95

B. 16

C. 4

D. 479.95

10) If L stands for +, M stands for –, N stands for ×, P stands for ÷, then 14 N 10 L 42 P 2 M 8 = ?

A. 153

B. 216

C. 248

D. 251

11) If + means ÷, × means -, ÷ means × and - means+, than 8 + 6 × 4 ÷ 3 - 4 = ?

A. -12

B. - 20/3

C. 12

D. 20/3

12) If × means ÷, - means ×, ÷ means + and + means-, than (3 - 15 ÷ 19) × 8 + 6 = ?

A. 8

B. 4

C. 2

D. -1

13) If + means ×, ÷ means -, × means ÷ and - means +, what will be the value of 4 + 11 ÷ 5 - 55 = ?

A. - 48.5
B. - 11
C. 79
D. 94

14) If ÷ means ×, × means +, + means – and – means ÷, find the value of 16 × 3 + 5 – 2 ÷ 4.

A. 9

B. 10

C. 19

D. None of these

15) If + stands for ×, – for ÷, × for – and ÷ for + , find the value of 26 + 74 – 4 × 5 ÷ 2.

A. 220

B. 376

C. 478

D. 488

16) If P denotes ÷, Q denotes ×, R denotes + and S denotes –, then what is the value of 18 Q 12 P 4 R 5 S 6 ?

A. 53

B. 59

C. 63

D. 65

17) If '-' stands for 'x', 'x' stands for '+', '+'stands for '÷' and '÷' stands for '-',then what is the value of 9÷18x15+3-6x12 ?

A. 24
B. 30
C. 33
D. 42

18) If 'x'means 'added to' '÷'means 'multiplied by'; '+'means 'subtracted from' and '-' means 'divided by',then simplify 24+36-12x 8÷4= ?

A. 36
B. 53
C. 5
D. 20

19) If A means '-',B means '÷',C means '+',and D means 'x',then 15B3C24A12D2 =?

A. 2

B. 5/9

C. $-23^{4}/_{9}$

D. 5

20) If 'W' means ÷,X means '+',Y means '-' and Z means 'x' then 28Z3Y4x12W6=?

A. 27

B. 82

C. 39

D. 53

21) If '+'means '÷',÷means 'x' ,'x' means '-' and '-' means '+' ,then 10+2÷5-3÷4+2-1=?

A. 32

B. 50

C. 45

D. 120

22) If '+' stands for '-' , '-' stands for 'x', 'x' stands for '÷'and '÷'stands for '+'then what is the value of 56x7÷13-11+15-8÷2-7?

A. 30

B. 45

C. 60

D. 90

23) If 'a' means ' ÷', 'b' means ' ×', 'c' means '+', 'd' means '-', then find the value of the expression 72a9b12a18c25d13b16c32 ?

A. -632/7

B. -438/5

C. -439/9

D. -437/3

24) If '+' means 'divided by', '-' means 'added to', 'x' means' subtracted from' and '÷' means 'multiplied by', then what is the value of 24 ÷ 12 – 18 + 9 ?

A. -25

B. 0.72

C. 15.30

D. 290

25) If + means ÷,÷ means -, - means x , x means + , then 12 + 6 ÷ 3 – 2 x 8 = ?

A. -2

B. 2

C. 4

D. 8

26) If + means - , - means x, ÷ means + and x means ÷ , then 15 – 3 + 10 x 5 ÷ 5 = ?

A. 5

B. 22

C. 48

D. 52

27) If + stands for x, - for ÷, x for – and ÷ for + , find the value of 26 + 24 – 4 x 5 ÷ 2.

A. 220

B. 376

C. 153

D. 155

28) If Q means 'add to', J means 'multiply by', T means' subtract from' and K means 'divide by' then 30 K 2 Q 3 J 6 T 5 =?

A. 18

B. 28

C. 31

D. 103

29) If P denotes ÷, Q denotes x, R denotes + and S denotes -, then what is the value of 18 Q 12 P 4 R 5 S 6 = ?

A. 53

B. 59

C. 63

D. 65

30) If $ means +, # means -, @ means x and * means /, then what is the value of 16 $ 4 @ 5 # 72 * 8 ?

A. 25

B. 27

C. 29

D. 36

ANSWER KEY

1) A	2) C	3) B	4) D	5) C	6) D	7) A	8) C	9) C	10) A
11) B	12) C	13) D	14) A	15) C	16) A	17) C	18)B	19) D	20) B
21) A	22) B	23) D	24) D	25)C	26) C	27) C	28) B	29) A	30) B

SOLUTION

1) Using the correct Symbol, we have: Given expression: 312 ÷ 3 - 60 = 44

2) Using the correct Symbol, we have: Given expression: 36 + 12 ÷ 3 - 5 x 2

3) Using the correct Symbol, we have: Given expression: 75 ÷ 5 + 3 x 4 - 6

4) Using the correct Symbol, we have: Given expression: 252 ÷ 9 x 5 - 32 + 92

5) Using the correct Symbol, we have: Given expression: 15 ÷ 5 x 2 - 3 + 2

Number operation

1) Write the last digit of the smallest number from the following given
   1746573, 184746, 184741, 184647

2) Write the last digit of the smallest number from the following given
   3847529, 37845924, 34846573, 83475638

3) Write the last digit of the smallest number from the following given
   8977324, 8976783, 9864727, 9978975

4) Write the last digit of the largest number from the following given
   5346284, 6474837, 5347228, 6746356

5) Write the last digit of the largest number from the following given
   8898789, 8978987, 9987898, 8997870

6) Write the last digit of the largest number from the following given
   3465227, 4536284, 987637, 3647266

7) Write the last digit of the largest number from the following given
   5463728, 6382734, 7483726, 7464632

8) Write the last digit of the largest number from the following given
   3891846, 7363283, 8463929, 9384174

9) Write the last digit of the smallest number from the following given
   7463726, 74837464, 8372646, 9476365

10) Write the last digit of the smallest number from the following given
    4857685, 7684735, 8475635, 8574634

11) Write the last digit of the smallest number from the following given
    4875663, 7685736, 9375638, 4756384

12) Write the last digit of the largest number from the following given
    8474736, 8465638, 74658392, 9475638

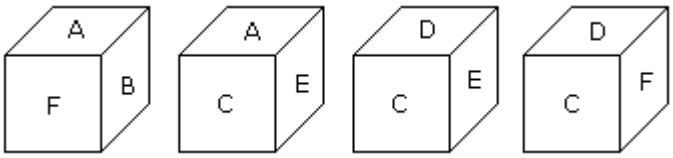
13) Write the last digit of the smallest number from the following given
    174721, 173626, 174635, 175242

14) Write the last digit of the largest number from the following given
    6745363, 5638365, 7465638, 7475638

15) Write the last digit of the smallest number from the following given
    4658364, 28374564, 8474675, 37462727

Dice

1) From the positions of a cube are shown below, Which letter will be on the face opposite to face with 'A'?



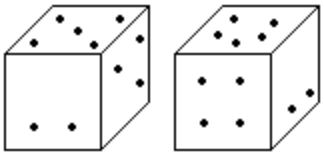
A. D

B. B

C. C

D. F

2) Two positions of a dice are shown below. When 3 points are at the bottom, how many points will be at the top?



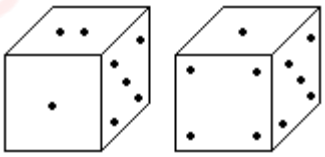
A. 2

B. 5

C. 4

D. 6

3) Observe the dots on the dice (one to six dots) in the following figures. How many dots are contained on the face opposite to the containing four dots?



i ii

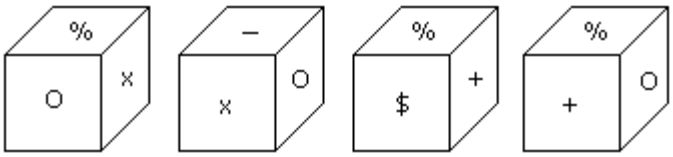
A. 2

B. 3

C. 5

D. 6

4) Here 4 positions of a cube are shown. Which sign will be opposite to '+' ?



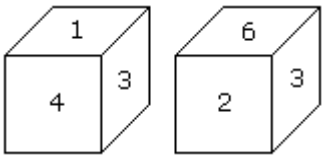
A. %

B. -

C. X

D. $

5) Two positions of a cubical block are shown. When 5 is at the top which number will be at bottom?



i ii

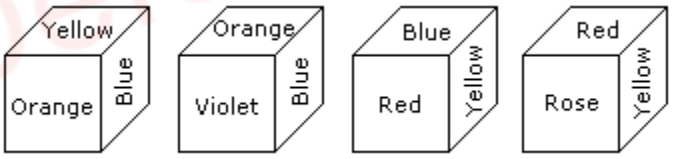
A. 1

B. 2

C. 3

D. 4

6) From the four positions of a dice given below, find the color which is opposite to yellow ?



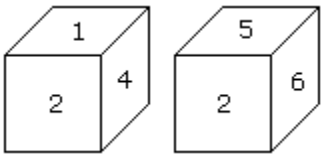
A. Violet

B. Red

C. Rose

D. Blue

7) When the digit 5 is on the bottom then which number will be on its upper surface?



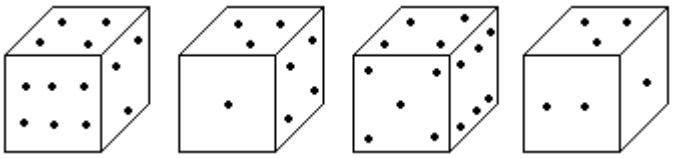
A. 1

B. 3

C. 4

D. 6

8) How many points will be on the face opposite to the face which contains 3 points?



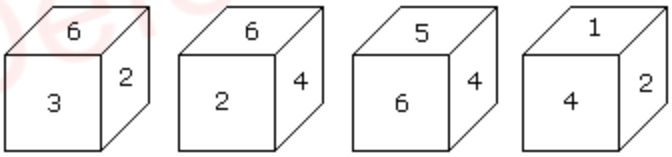
A. 2

B. 4

C. 5

D. 6

9) Which number is on the face opposite to 6?



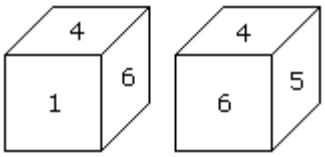
A. 4

B. 1

C. 2

D. 3

10) Two positions of a dice are shown below. When number '1' is on the top. What number will be at the bottom?



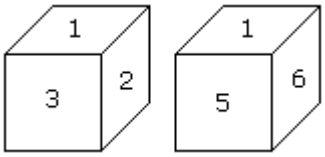
A. 3

B. 5

C. 2

D. 6

11) Two positions of a cube with its surfaces numbered are shown below. When the surface 4 touch the bottom, what surface will be on the top?



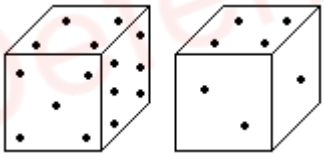
A. 1

B. 2

C. 5

D. 6

12) Here two positions of dice are shown. If there are two dots in the bottom, then how many dots will be on the top?



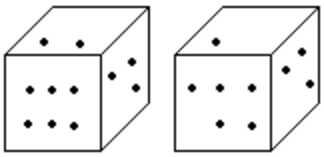
A. 2

B. 3

C. 5

D. 6

13) Two positions of dice are shown below. How many points will be on the top when 2 points are at the bottom?



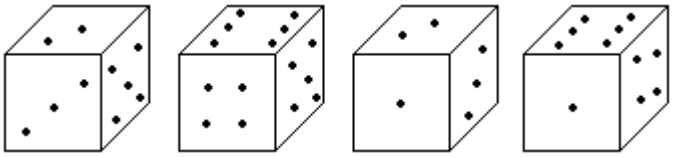
A. 6

B. 5

C. 4

D. 1

14) How many points will be on the face opposite to in face which contains 2 points?



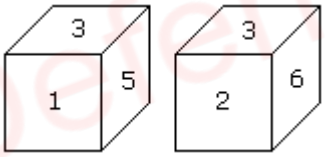
A. 1

B. 5

C. 4

D. 6

15) Two positions of a dice are shown below. Which number will appear on the face opposite to the face with the number 5?



A. 2/6

B. 2

C. 6

D. 4

ANSWER KEY

1) A	2) C	3) A	4) C	5) C
6) A	7) A	8) C	9) B	10) B
11) A	12) C	13) D	14) D	15) C

SOLUTION

1) The letters of the adjacent faces to the face with letter A, are B, F, C and E. Hence D is the letter of the face opposite to the face with letters (A).

2) According to the rule (2) when 3 points are at the bottom then 4 points will be at the top.

3) We shall assume the dice in fig. (ii) to be rotated so that the 5 dots appear at the same position as in fig. (i) i.e. on RHS face (i.e. on face II as per activity 1) and 1 dot appears at the same position as in fig; (i) i.e. on Front face (i.e. on face I). Then, from the, two figures, 2 dots appear on the top face (i.e. on face V) and 4 dots appear on the Bottom face (i.e. on face VI).

Since, these two faces are opposite to each other, therefore, two dots are contained on the face opposite to that containing four dots.

4) From position I and III common face with % is in the same position. Hence according to rule (3) opposite is X.

5) From figures (i) and (ii), it is clear that 4, 1, 3 and 6 he adjacent to 2. Therefore, 5 must lie opposite 2. Thus, if 5 is at the top, then 2 must be at the bottom

6) The colours adjacent to yellow are orange, blue, red and rose. Hence violet will be opposite to yellow.

7) According to the rule no. (3), common faces with number 2 are in same positions. Hence when the digit 5 is on the bottom then 1 will on the upper surface.

8) The adjacent faces to the face which 3 points have 2, 1, 4 and 6 points. Hence on the face which is opposite to the face which contains 3 points, there will be 5 points

9) As the numbers 2, 3, 4 and 5 are adjacent to 6. Hence the number on the face opposite to 6 is 1.

10) According to the rule (2) when 'one' is at the top, then 5 will be at the bottom.

11) In these 2 positions one common face with number 1 is in the same position. Hence according to the rule number (3), 2 is opposite 6 and 3 is opposite to 5. Therefore opposite to 4 is 1.

12) Here the common faces with 4 dots are in same positions. Hence 2 will be opposite to 5.

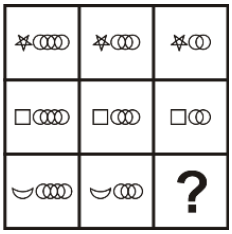
13) In these 2 positions of a dice, one common face having points 3 is in the same position. Hence according to rule (3), there will be 4 points on the required face.

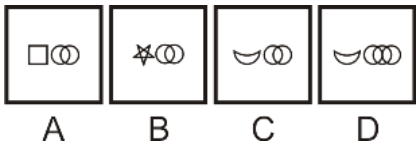
14) In first two positions of dice one common face containing 5 is same. Therefore according to rule no. (3) the face opposite to the face which contains 2 point, will contains 6 points.

15) According to the rule no. (3), common faces with number 3, are in same positions. Hence the number of the opposite face to face with number 5 will be 6

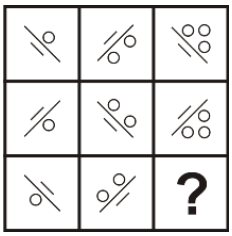
Figure Matrix

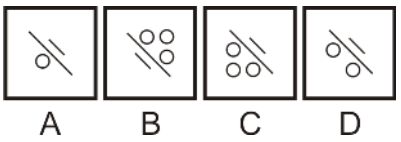
1) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



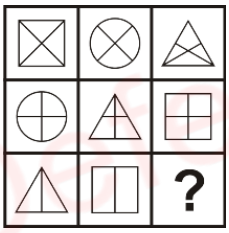


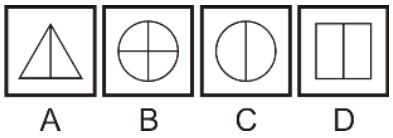
2) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



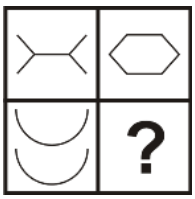


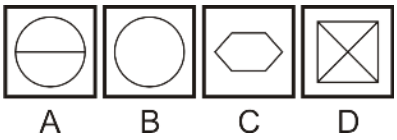
3) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



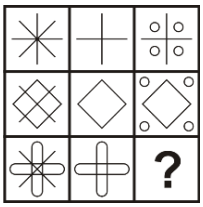


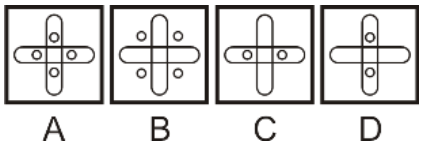
4) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



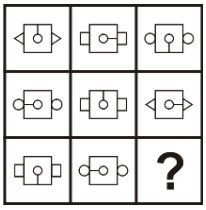


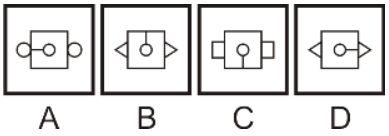
5) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



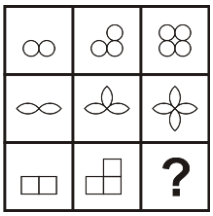


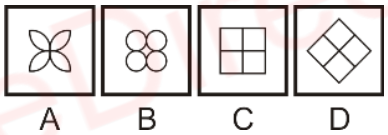
6) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



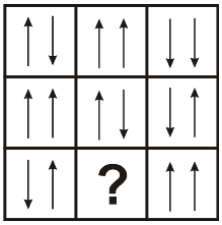


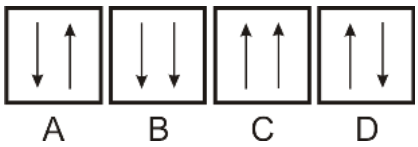
7) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



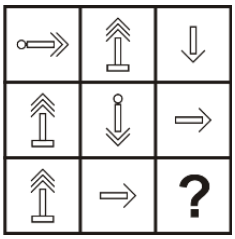


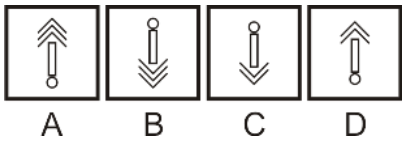
8) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



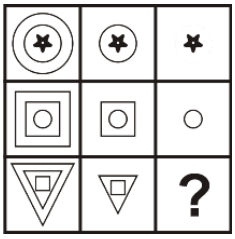


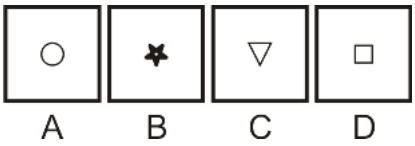
9) Choose the alternative which is closely resembles the Figure Matrix of the given figure.



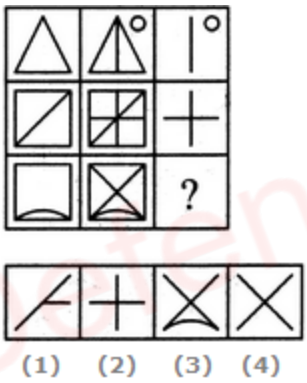


10) Choose the alternative which is closely resembles the Figure Matrix of the given figure.





11) Select a suitable figure from the four alternatives that would complete the figure matrix.



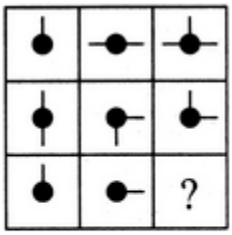
A. 1

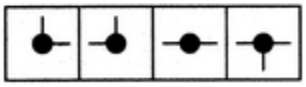
B. 2

C. 3

D. 4

12) Select a suitable figure from the four alternatives that would complete the figure matrix.





(1) (2) (3) (4)

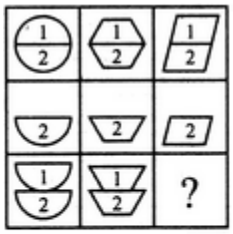
A. 1

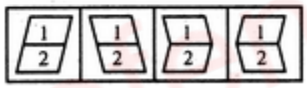
B. 2

C. 3

D. 4

13) Select a suitable figure from the four alternatives that would complete the figure matrix.





(1) (2) (3) (4)

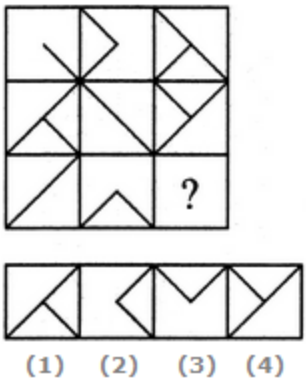
A. 1

B. 2

C. 3

D. 4

14) Select a suitable figure from the four alternatives that would complete the figure matrix.



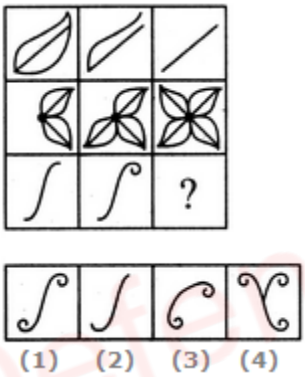
A. 1

B. 2

C. 3

D. 4

15) Select a suitable figure from the four alternatives that would complete the figure matrix.



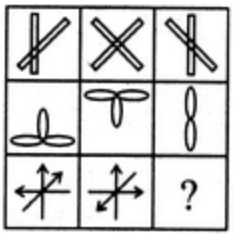
A. 1

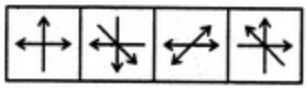
B. 2

C. 3

D. 4

16) Select a suitable figure from the four alternatives that would complete the figure matrix.





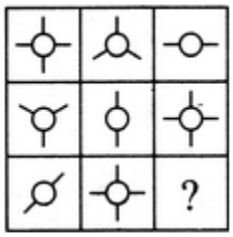
A. 1

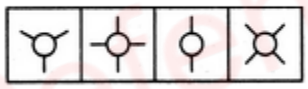
B. 2

C. 3

D. 4

17) Select a suitable figure from the four alternatives that would complete the figure matrix.





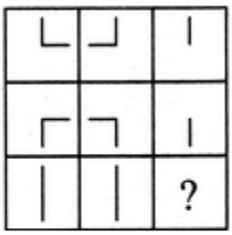
A. 1

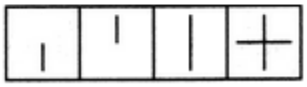
B. 2

C. 3

D. 4

18) Select a suitable figure from the four alternatives that would complete the figure matrix.





(1) (2) (3) (4)

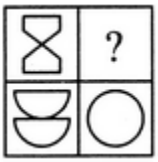
A. 1

B. 2

C. 3

D. 4

19) Select a suitable figure from the four alternatives that would complete the figure matrix.



(1) (2) (3) (4)

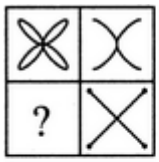
A. 1

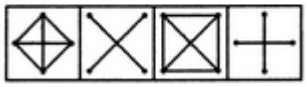
B. 2

C. 3

D. 4

20) Select a suitable figure from the four alternatives that would complete the figure matrix.





(1) (2) (3) (4)

A. 1

B. 2

C. 3

D. 4

ANSWER KEY

1) C	2) C	3) C	4) B	5) B
6) B	7) C	8) B	9) C	10) D
11) D	12) A	13) C	14) B	15) A
16) C	17) A	18) C	19) B	20) C

1) The missing image is

C

In each figure the shape of circle has decreased by one

2) The missing image is

C

In each figure the, the circle are side of longer line. The number of circle increased in each step from left to right in each row. The position of first and third figure is same.

3) The missing image is

C

Clearly triangle has two parts divide by vertical and followed to second figure has square with two parts.

4) The missing image is

B The second figure is obtained by completing the figure of first one.

5) The missing image is

B

As we move form fist figure to second figure, the two perpendicular intersected lines get omitted and four small circles are placed at the four corner of each row of third figure.

6) The missing image is

B

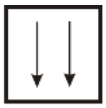
In third row, the inner circle moves with the bar 90° clockwise at each step has three shape like triangle, rectangle, circle and one is missing.

7) The missing image is

C

Clearly the first figure has two round joined each other and it increase with one more round shape,similarly each figure has increased in each figure.

8) The missing image is



B

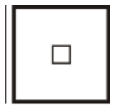
In the first figure second arrow is only inverted and placed in the second figure, third figure of both arrow are inverted, thus the option for third row is second figure.

9) The missing image is

C

Here is three type of arrow- singe arrow, double arrow and triple arrow. Position of arrows are different upwards, downwards and towards right. These arrows has three type of base - circle, plane and rectangle.

10) The missing image is



D

In the first annd second row, the second figure is the inner part of the first figure and similary the third figure is the inner part of the second figure.

11) The third figure in each row comprises of parts which are not common to the first two figures.

12) In each row, the third figure comprises of a black circle and only those line segments which are not common to the first and the second figures.

13) In each column, the second figure (middle figure) is obtained by removing the upper part of the first figure (uppermost figure) and the third figure (lowermost figure) is obtained by vertically inverting the upper part of the first figure.

14) The third figure in each row comprises of parts which are not common to the first two figures.

15) The number of components in each row either increases or decreases from left to right. In the third row, it increases.

16) The third figure in each row comprises of parts which are not common to the first two figures.

17) Each row (as well as each column) contains a figure consisting of a circle and two line segments, a figure consisting of a circle and three line segments and a figure consisting of a circle and four line segments.

18) In each row, the third figure is a collection of the common elements (line segments) of the first and the second figures.

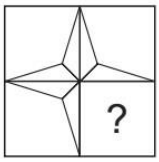
19) The two parts of the first figure are rearranged and joined along the longer sides. The common side is then lost to form the second figure.

20) The second figure is a part of the first figure (but is not exactly the same as the first figure).

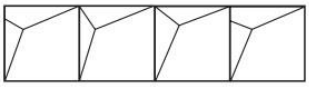
Pattern Completion

1) Select the correct figure from the given Answer Figure that would complete the Question figure.

Question Figure



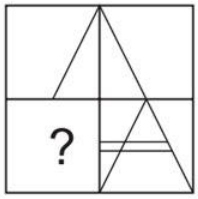
Answer Figure



(a) (b) (c) (d)

2) Following question has four alternatives, among which one completes the figures.

Question Figure

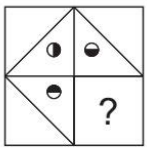


Answer Figure

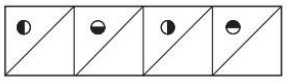
(a) (b) (c) (d)

3) Select the correct figure from the Answer Figure that would complete the Question Figure.

Question Figure



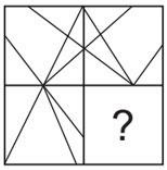
Answer Figure



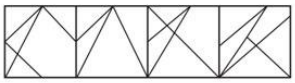
(a) (b) (c) (d)

4) Following Question has four alternatives, among which one completes the figures.

Question Figure



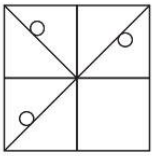
Answer Figure



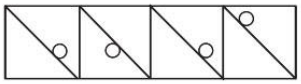
(a) (b) (c) (d)

5) Following Question has four alternatives, among which one completes the figures.

Question Figure



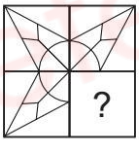
Answer Figure



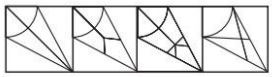
(a) (b) (c) (d)

6) Select a suitable figure from the four alternatives that would complete the figure.

Question Figure



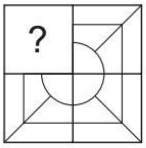
Answer Figure



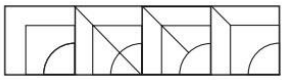
(a) (b) (c) (d)

7) Select a suitable figure from the four alternatives that would complete the figure.

Question Figure



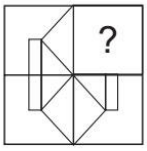
Answer Figure



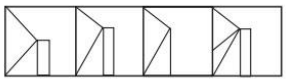
(a) (b) (c) (d)

8) Following Question has four alternatives, among which one completes the figures.

Question Figure



Answer Figure



(a) (b) (c) (d)

9) Select the correct figure from the given Answer Figure that would complete the Question figure.

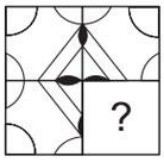
Question Figure

Answer Figure

(a) (b) (c) (d)

10) Select the correct figure from the given Answer Figure that would complete the Question figure.

Question Figure

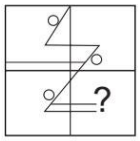


Answer Figure

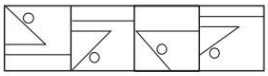
(a) (b) (c) (d)

11) Select a suitable figure from the four alternatives that would complete the figure.

Question Figure



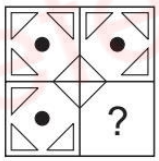
Answer Figure



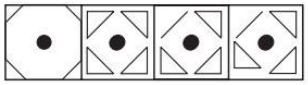
(a) (b) (c) (d)

12) Select a suitable figure from the four alternatives that would complete the figure.

Question Figure



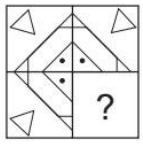
Answer Figure



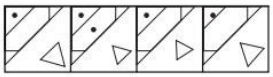
(a) (b) (c) (d)

13) Following Question has four alternatives, among which one completes the figures.

Question Figure



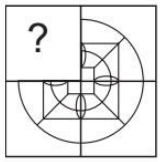
Answer Figure



(a) (b) (c) (d)

14) Select the correct figure from the given Answer Figure that would complete the Question figure.

Question Figure

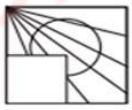


Answer Figure

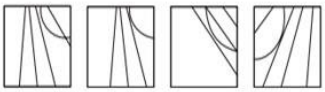
(a) (b) (c) (d)

15) Select the correct figure from the given Answer Figure that would complete the Question figure.

Question Figure



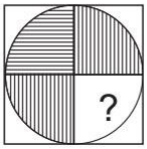
Answer Figure



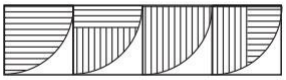
(a) (b) (c) (d)

16) Following Question has four alternatives, among which one completes the figures.

Question Figure



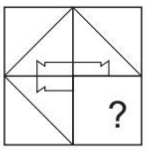
Answer Figure



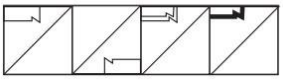
(a) (b) (c) (d)

17) Following Question has four alternatives, among which one completes the figures.

Question Figure



Answer Figure



(a) (b) (c) (d)

18) Select the correct figure from the given Answer Figure that would complete the Question figure.

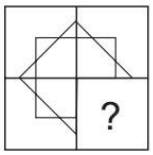
Question Figure

Answer Figure

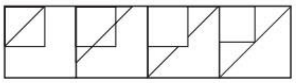
(a) (b) (c) (d)

19) Following Question has four alternatives, among which one completes the figures.

Question Figure



Answer Figure



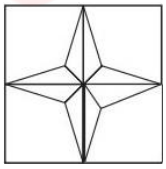
(a) (b) (c) (d)

ANSWER KEY

1) B	2) A	3) A	4) B	5) B
6) B	7) C	8) A	9) B	10) D
11) B	12) C	13) D	14) D	15) A
16) A	17) A	18) B	19) B	

SOLUTION

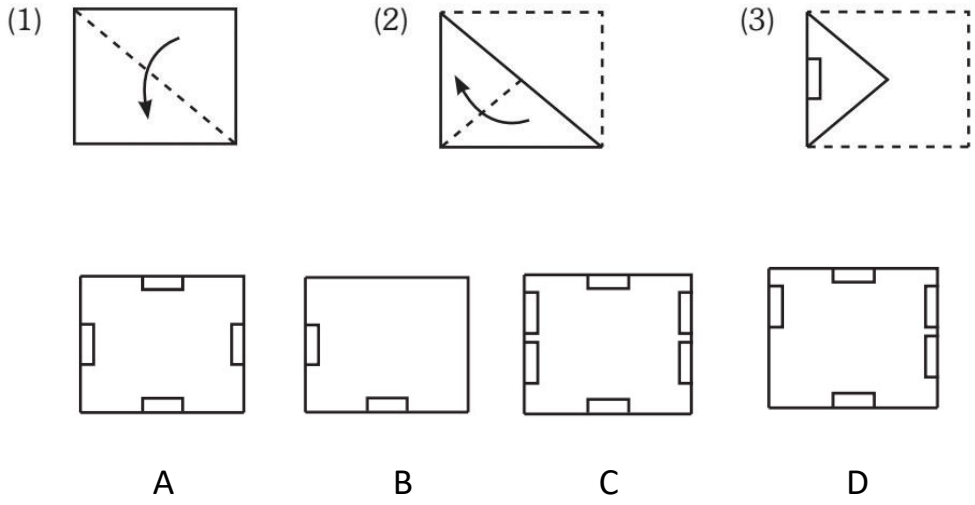
1) The answer is figure B



Paper Cutting

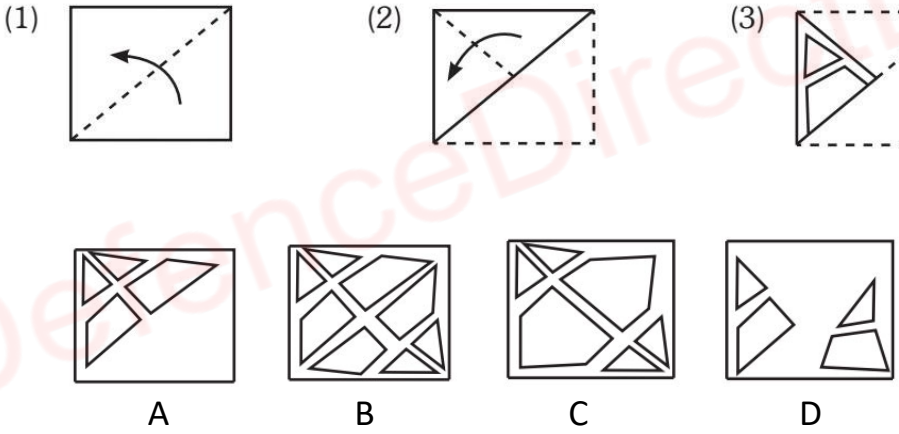
1. Choose a figure which would most closely resemble the unfolded form of Figure (3).

Question figure of Paper Cutting



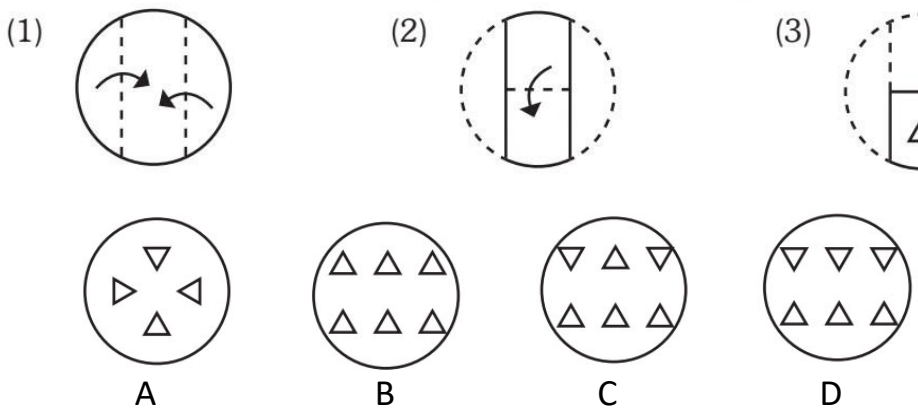
2. Choose a figure which would most closely resemble the unfolded form of Figure (3).

Question figure of Paper Cutting

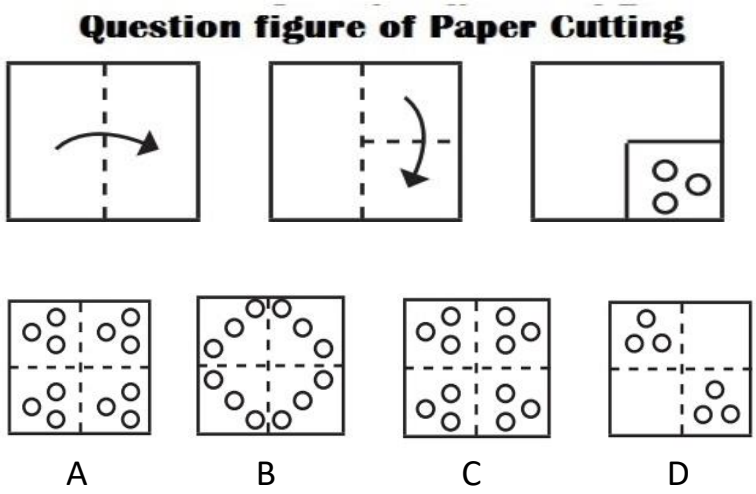


3. Choose a figure which would most closely resemble the unfolded form of Figure (3).

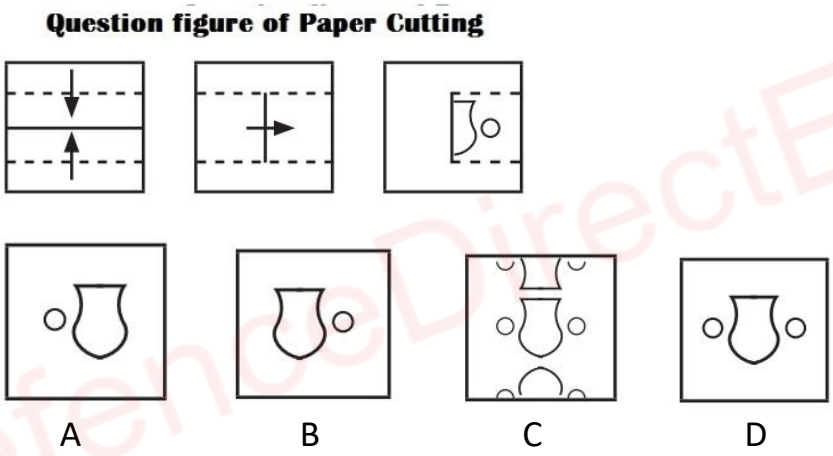
Question figure of Paper Cutting



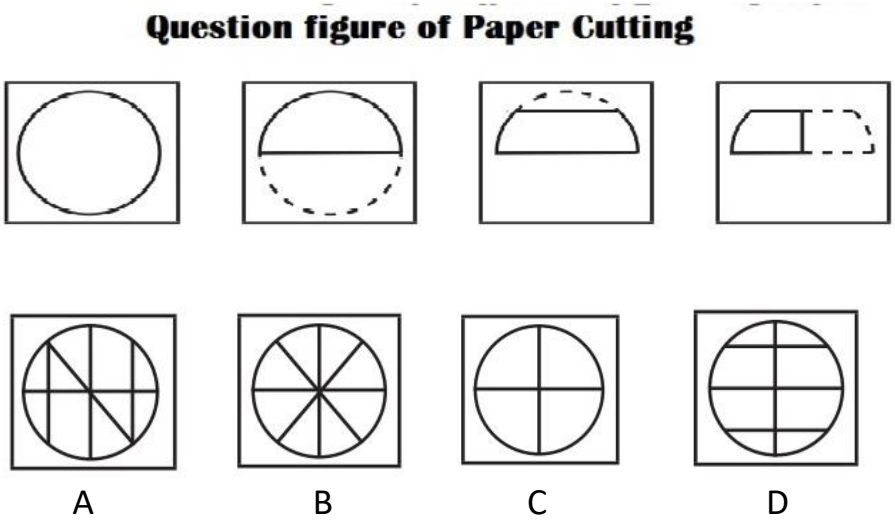
4. Choose a figure which would most closely resemble the unfolded form of figure.



5. Choose a figure which would most closely resemble the unfolded form of Figure.

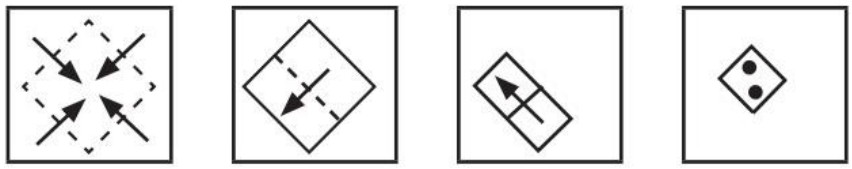


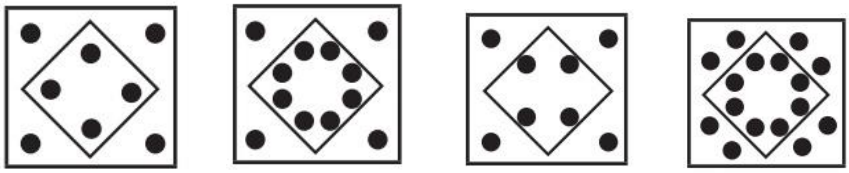
6. Choose a figure which would most closely resemble the unfolded form of figure.



7. Choose a figure which would most closely resemble the unfolded form of Figure.

Question figure of Paper Cutting

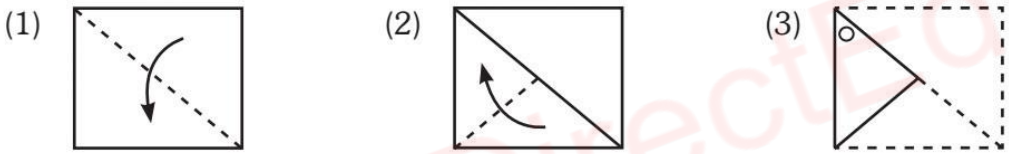


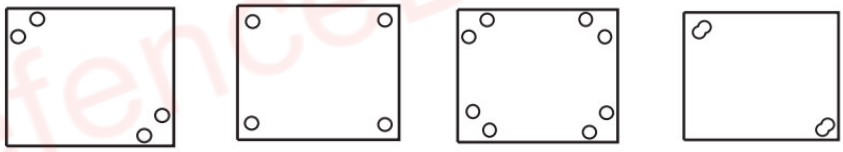


A B C D

8. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

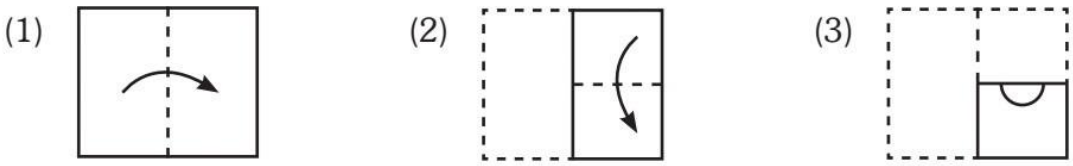


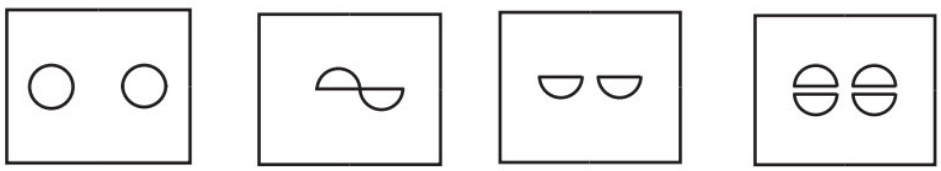


A B C D

9. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

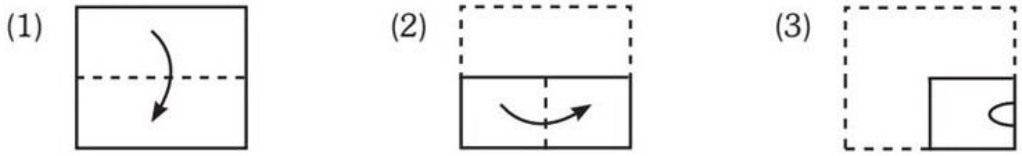


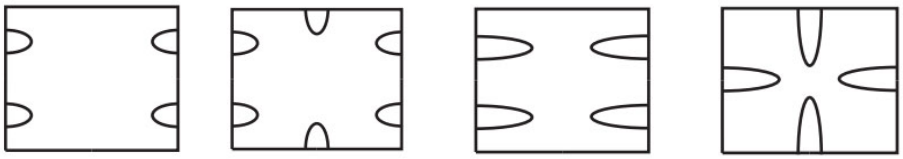


A B C D

10. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

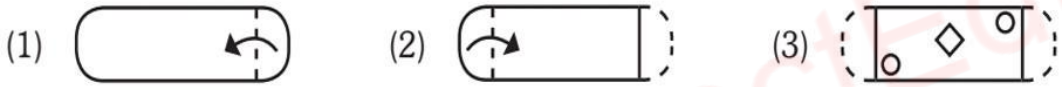




A B C D

11. Choose a figure which would most closely resemble the unfolded form of Figure (3).

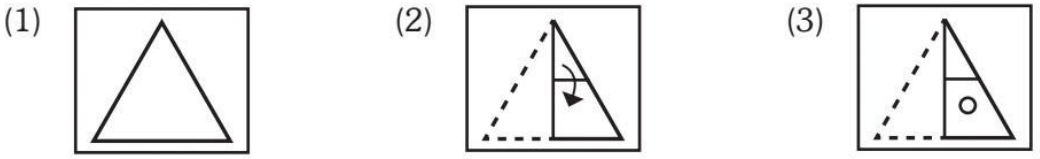
Question figure of Paper Cutting

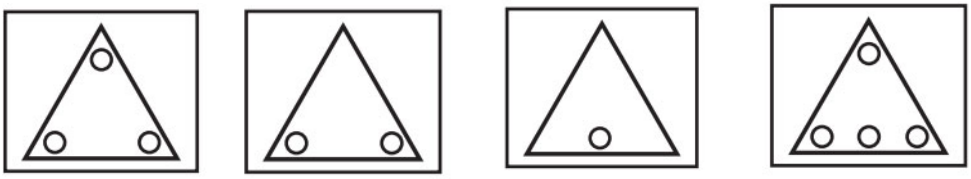


A B C D

12. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

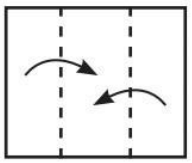
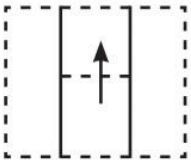


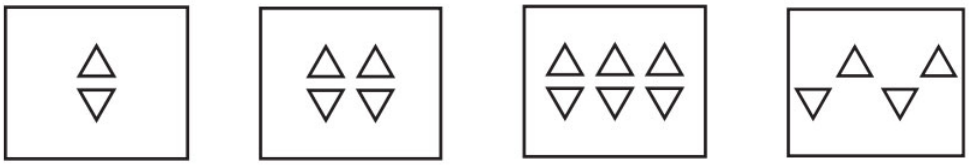


A B C D

13. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

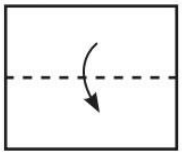
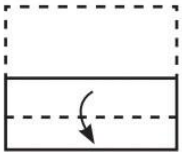
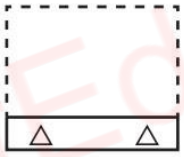
(1)  (2)  (3) 

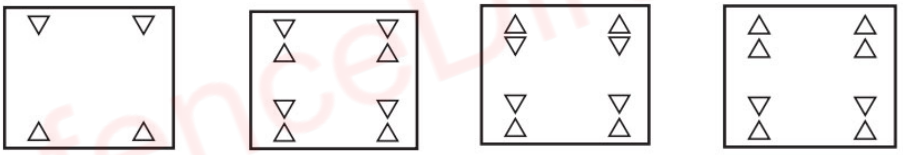


A B C D

14. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

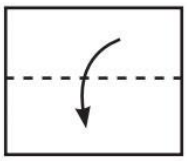
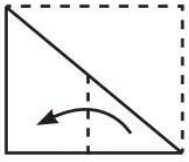
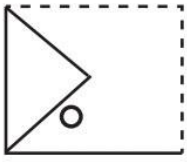
(1)  (2)  (3) 

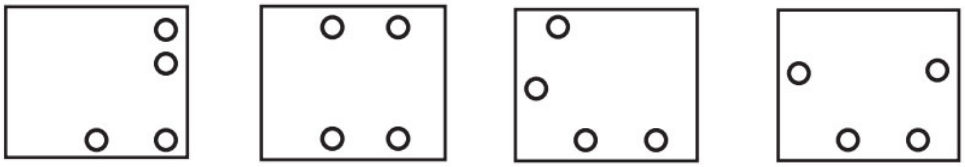


A B C D

15. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting

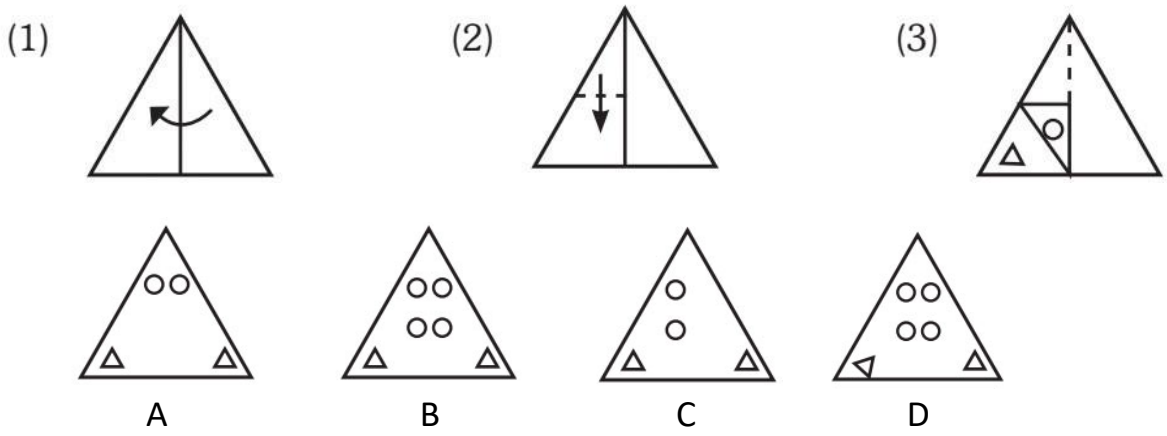
(1)  (2)  (3) 



A B C D

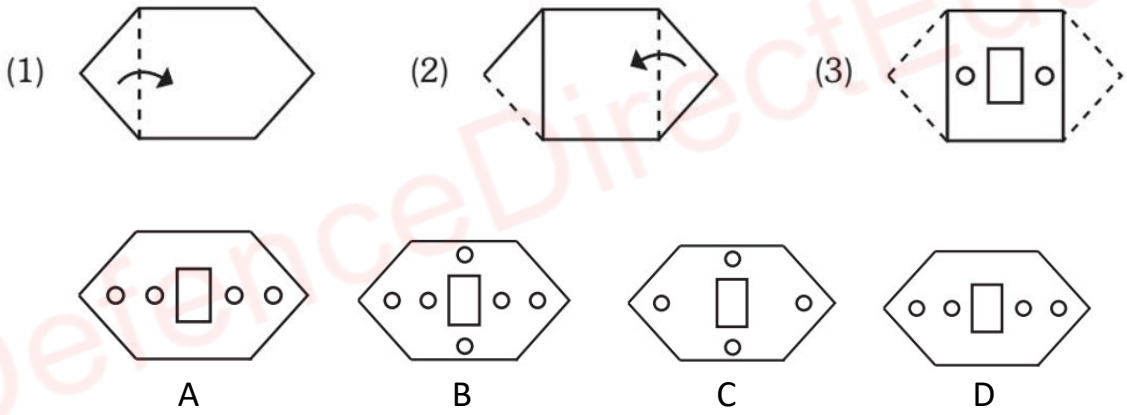
16. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

Question figure of Paper Cutting



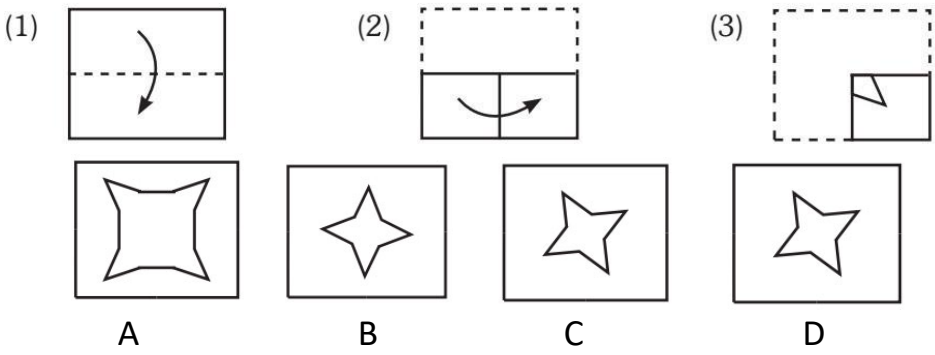
17. Choose a figure which would most closely resemble the unfolded form of Figure (3).

Question figure of Paper Cutting



18. Choose a figure which would most closely resemble the unfolded form of **Figure (3).**

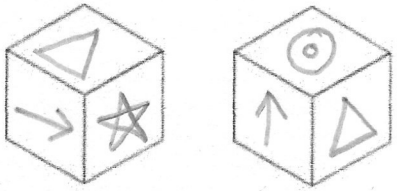
Question figure of Paper Cutting

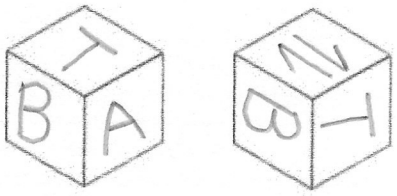


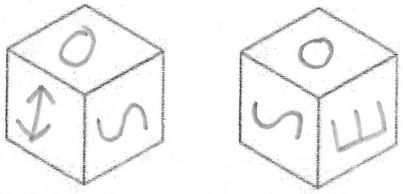
ANSWER KEY

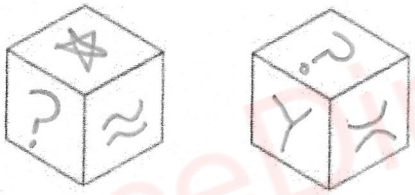
1) A	2) C	3) D	4) C	5) C	6) D
7) D	8) A	9) A	10) A	11) C	12) B
13) C	14) B	15) A	16) B	17) A	18) C

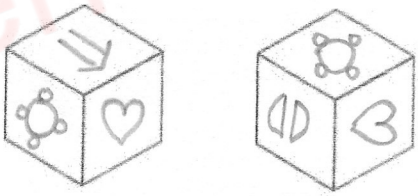
In the questions given below, Find if the following cubes look alike or not. Write YES if they are similar and NO if they are not similar.

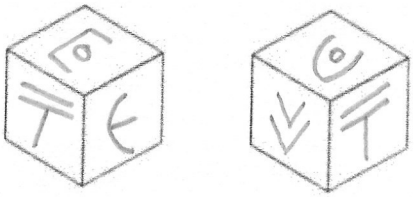
1. 

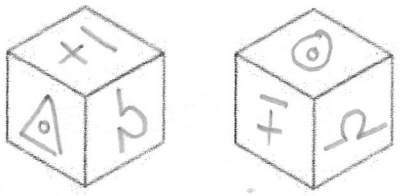
2. 

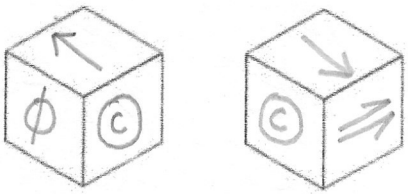
3. 

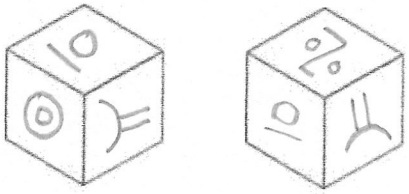
4. 

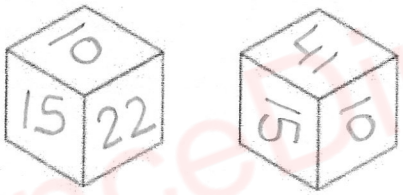
5. 

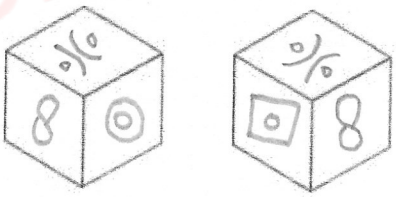
6. 

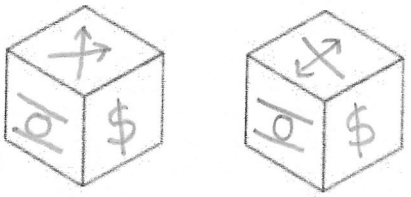
7. 

8. 

9. 

10. 

11. 

12. 

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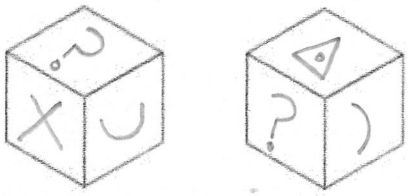

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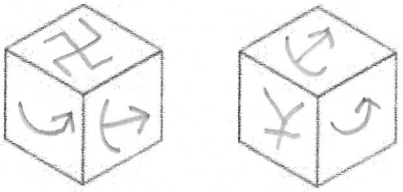

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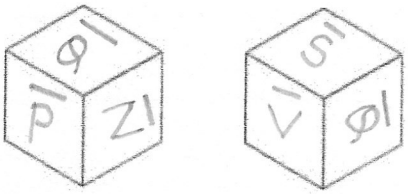
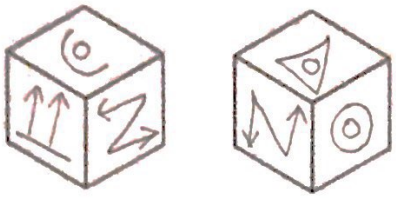
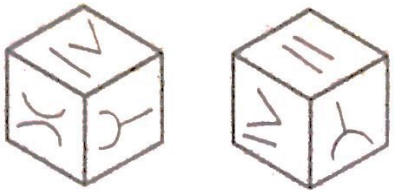


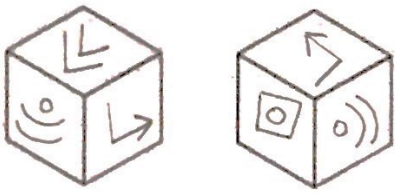
Answers:

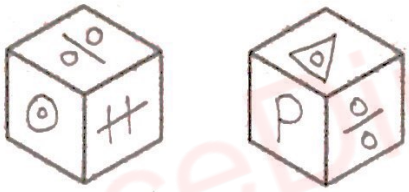
1. No	2. Yes	3. Yes	4. No	5. Yes
6. No	7. Yes	8. No	9. Yes	10. Yes
11. Yes	12. No	13. Yes	14. No	15. No

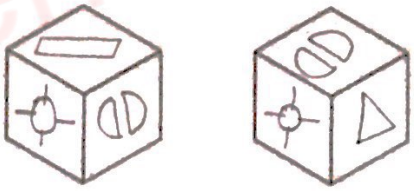
In the questions given below, Find if the following cubes look alike or not. Write YES if they are similar and NO if they are not similar.

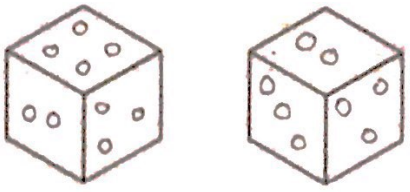
1. 

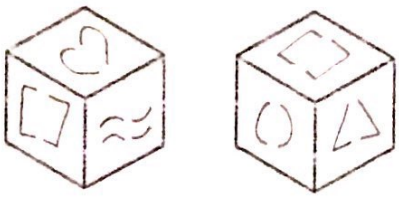
2. 

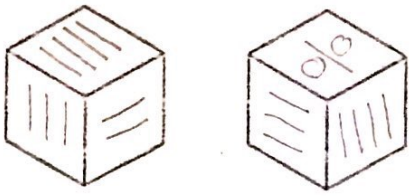
3. 

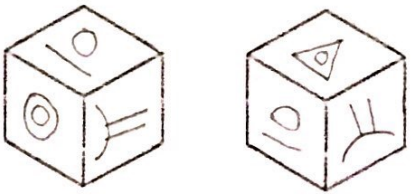
4. 

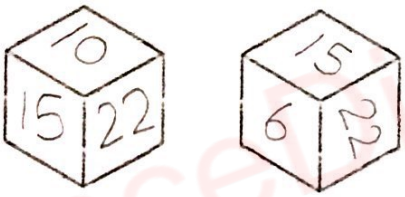
5. 

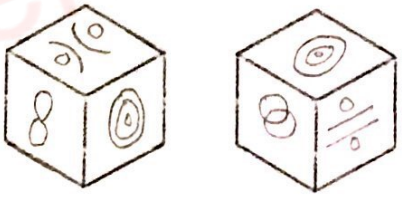
6. 

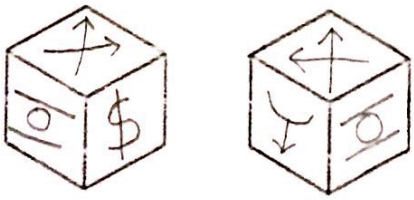
7. 

8. 

9. 

10. 

11. 

12. 

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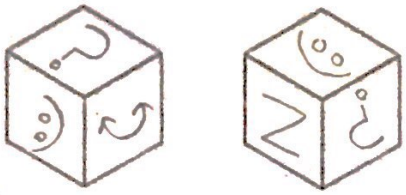

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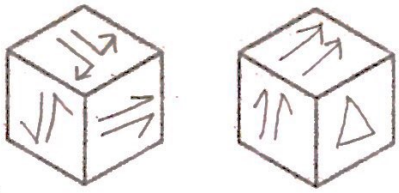

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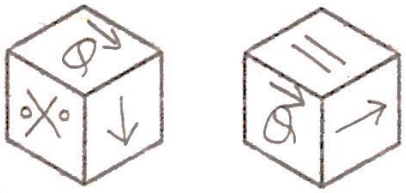
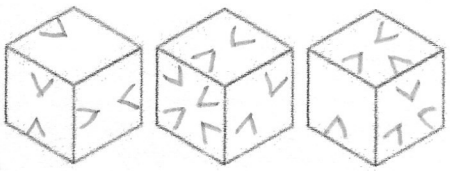


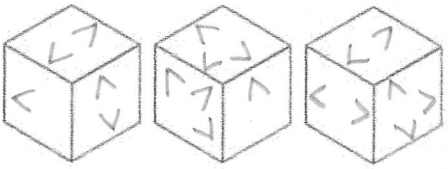
Answers:

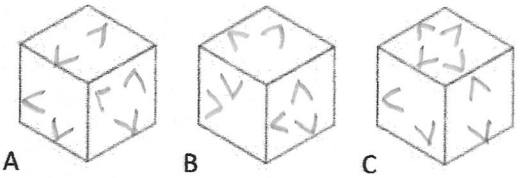
1. No	2. Yes	3. Yes	4. No	5. Yes
6. Yes	7. Yes	8. No	9. Yes	10. Yes
11. No	12. Yes	13. Yes	14. No	15. Yes

Q1-15. From the options A, B and C which cube belongs to Group A.

1.

Group A 

Group B 



A B C

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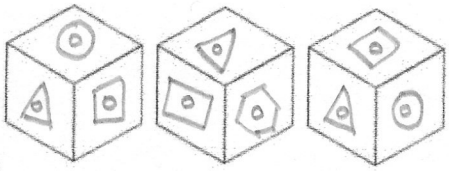
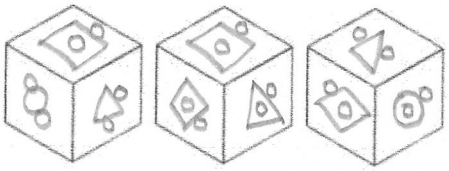
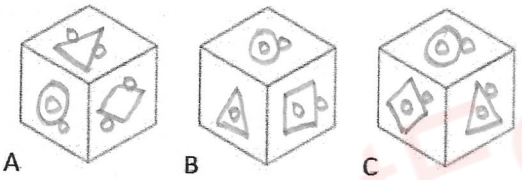
Group A 

Group B 



A B C

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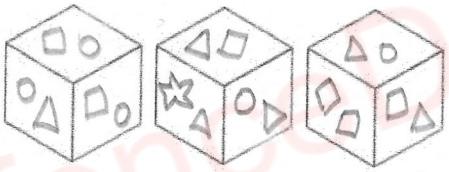
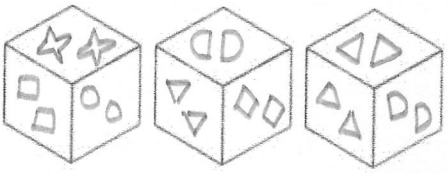
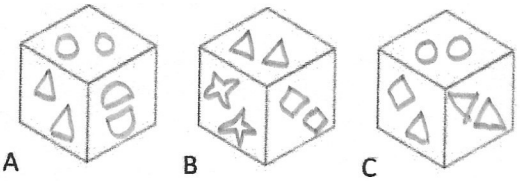
Group A 

Group B 



A B C

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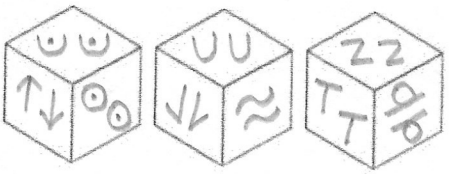
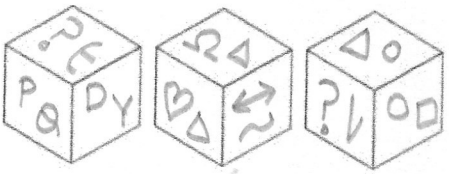
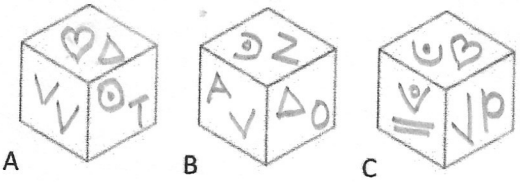
Group A 

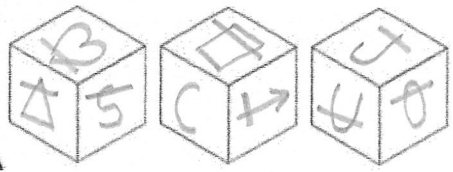
Group B 



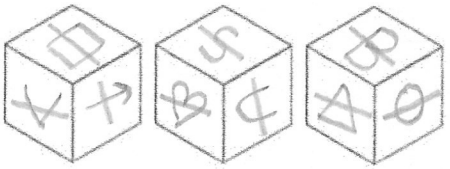
A B C

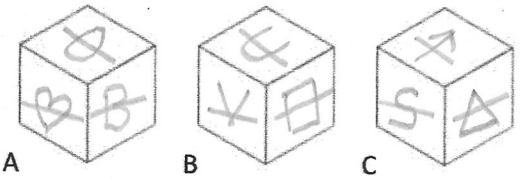
5.

Group A



Group B

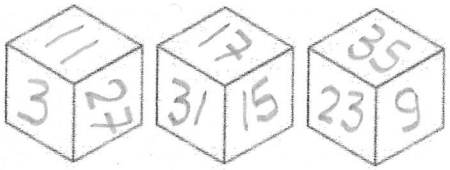




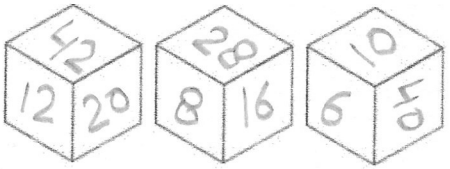
A B C

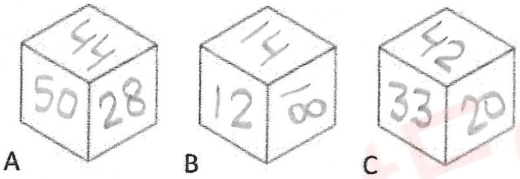
6.

Group A



Group B



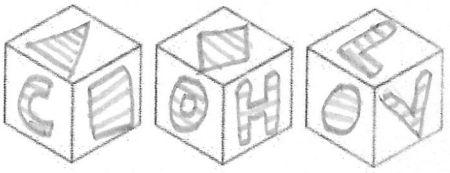


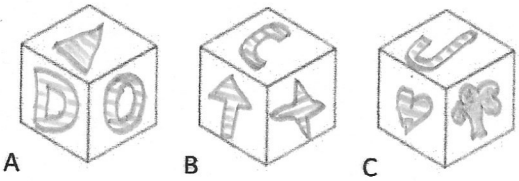
A B C

7.

Group A

Group B

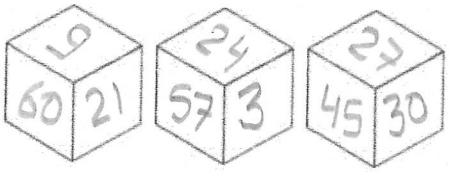




A B C

8.

Group A



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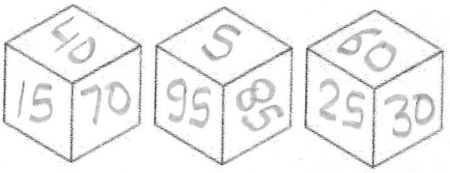
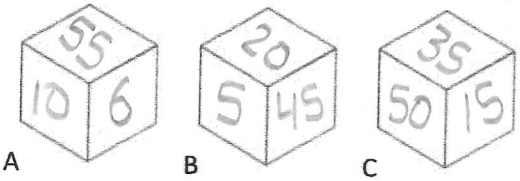
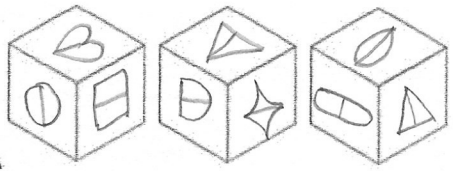


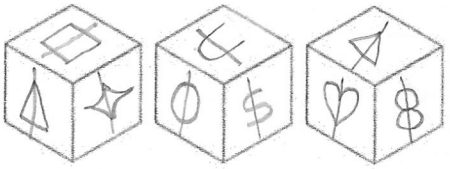


A B C

9.



Group A



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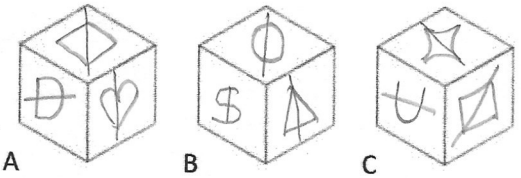
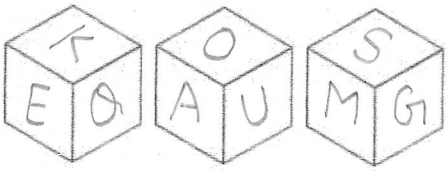
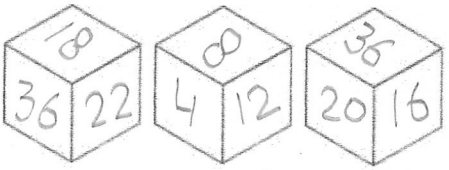


A B C

10.



Group A



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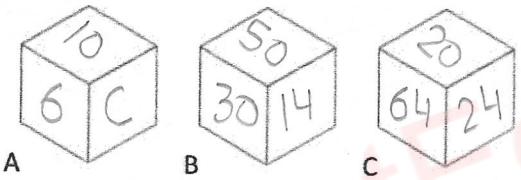
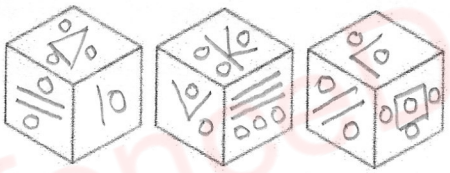
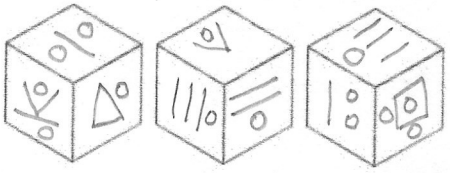


A B C

11.



Group A



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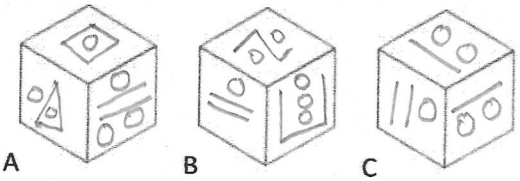
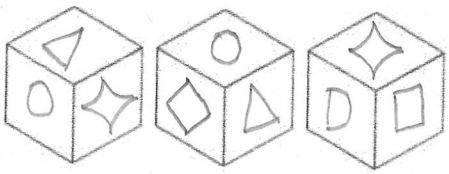
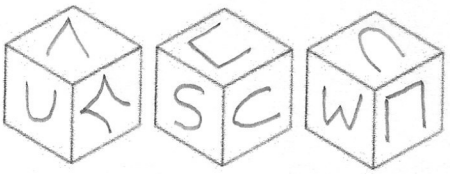


A B C

12.



Group A



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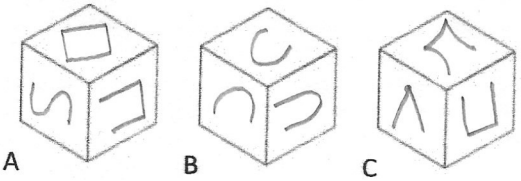
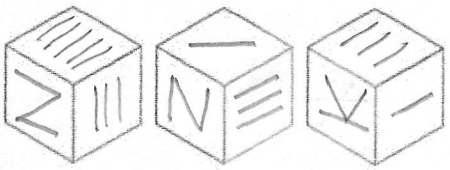


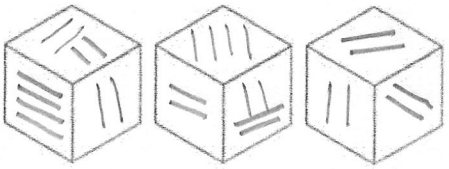
A B C

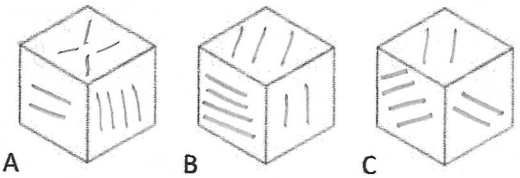
13.

Group A



Group B

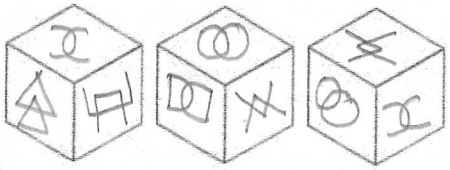




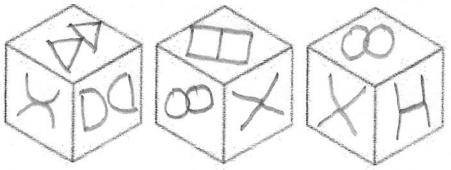
A B C

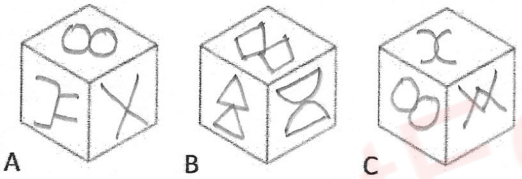
14.

Group A



Group B

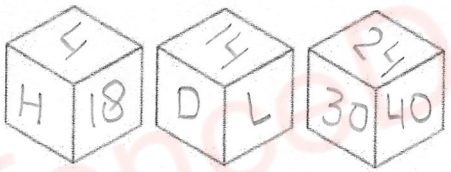




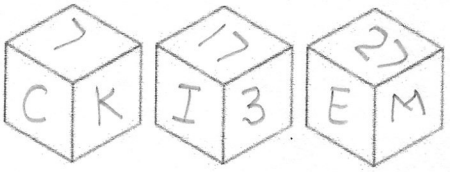
A B C

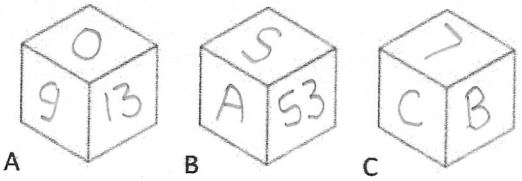
15.

Group A



Group B





A B C

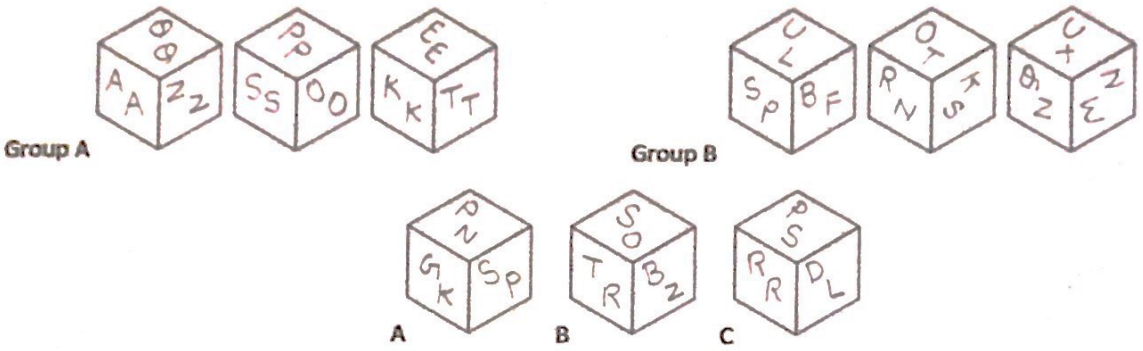
Answers:

1. B	2. B	3. C	4. A	5. B
6. C	7. C	8. A	9. B	10. A
11. B	12. A	13. B	14. C	15. C

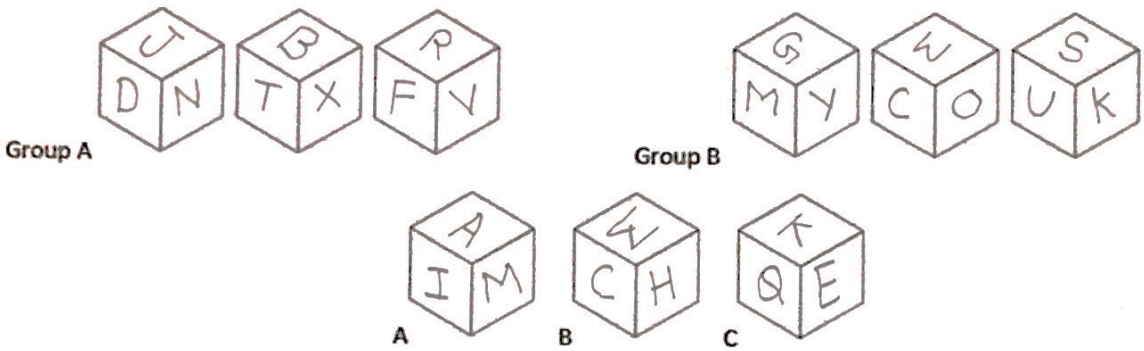
1. In group A symbol is pointing inward whereas in Group B symbol is pointing outward. In Cube B one of the side has symbol pointing inward. Hence the answer is B.
2. In group A the dot is inside a symbol whereas in group B the dots are inside as well as outside a symbol. Hence the answer id option B.
3. In group A each side has two different symbols whereas group B has same symbol. Hence the answer is option C.
4. In group A sides have same symbol whereas in group B sides have different symbols. Hence the answer is option A.
5. In group A each symbol is bisected from the end whereas in group B each symbol is bisected from the center. Hence the answer is option B.
6. Group A consists of odd number whereas group B consists of even number. Hence the answer is option C as one of the side has odd number.
7. Symbols in group A are shaded whereas in group B symbols has horizontal lines. Hence the answer is option C.
8. Group A has multiple of 3 whereas group B has multiple of 5. Hence the answer is option A.
9. In group A the bisector line is within the symbol whereas in group B the line extends out of the symbol. Hence the answer is option B.
10. Group A has alphabets whereas group B has numbers. Hence the answer is option A as one of the side has a alphabet.
11. In group A number of dots is equal to the number of lines. Hence the answer is option B.
12. Group A contains closed figures whereas group B contains open figures. Hence the answer is option A.
13. Group A has odd number of lines whereas group b has even number of lines. Hence the answer is option B.
14. One of the side of cube C matches the properties of group A.
15. Group A contains numbers and alphabet of even positions whereas group B has odd positions. Hence the answer is option C.

Q1-10. From the options A, B and C which cube belongs to Group A.

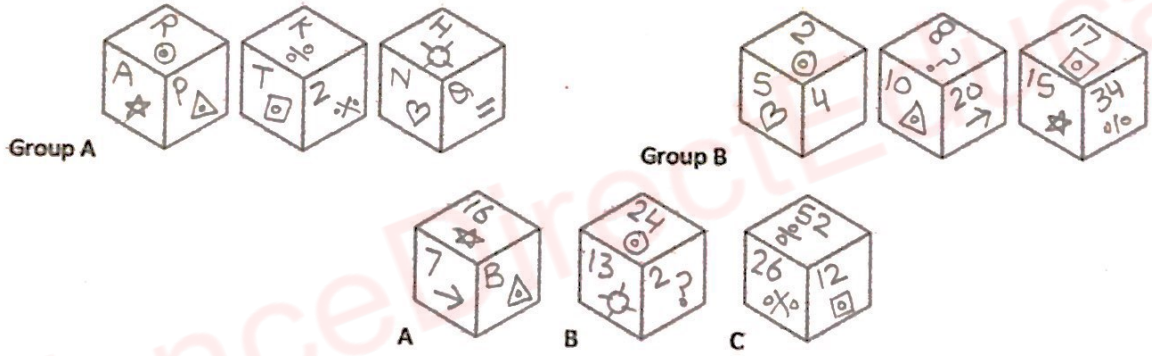
1.



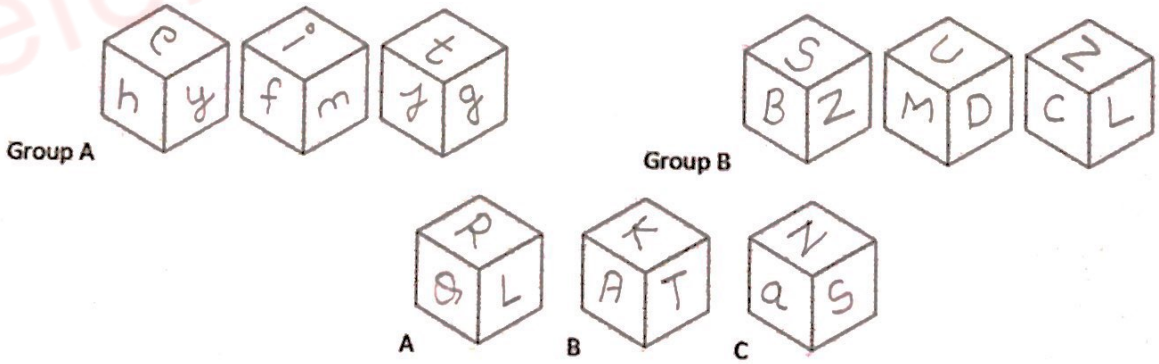
2.



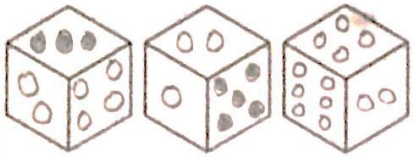
3.



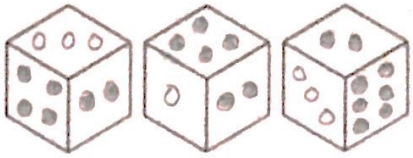
4.



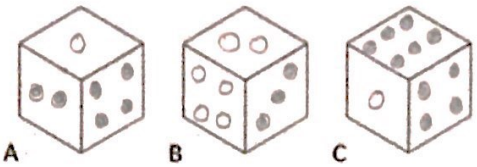
5.



Group A

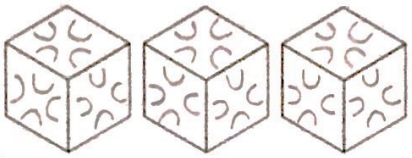


Group B

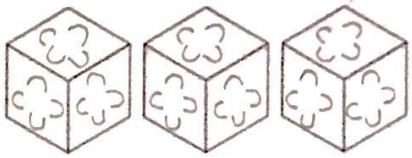


A B C

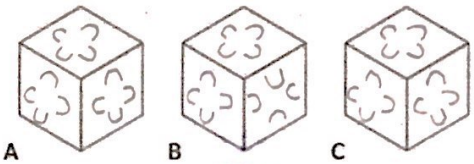
6.



Group A

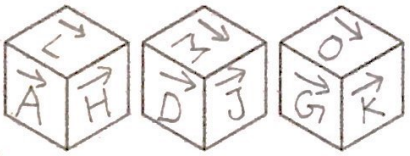


Group B

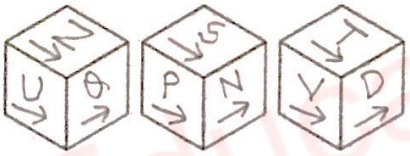


A B C

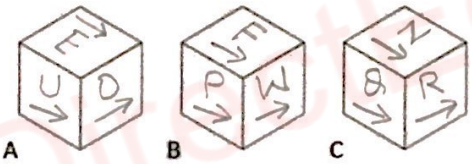
7.



Group A

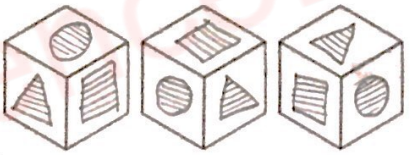


Group B

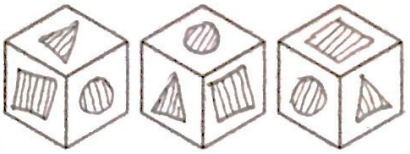


A B C

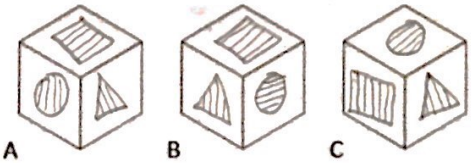
8.



Group A

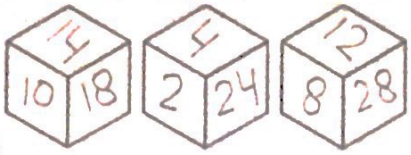


Group B

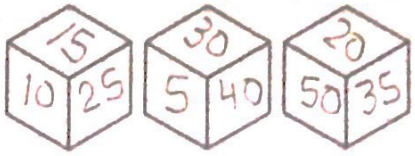


A B C

9.



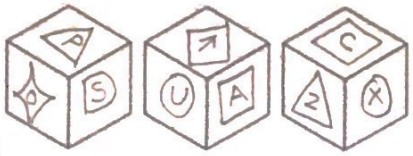
Group A



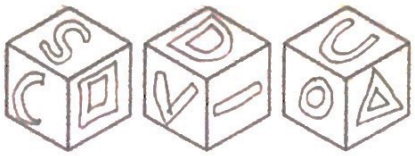
Group B

A B C

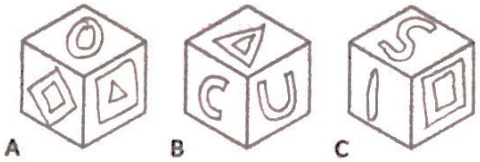
10.



Group A



Group B



A B C

Answers:

1. C	2. B	3. A	4. C	5. B
6. B	7. A	8. B	9. C	10. A

1. Each side of group A has same alphabet twice whereas group B has two different alphabets. Hence the answer is option C.
2. Group A has alphabets of even place whereas group B has alphabets of odd places. Hence the answer is option B.
3. Each side of group A has a symbol and alphabet whereas group B has a number and symbol. Hence the answer is option A.
4. Group A has alphabets in lower case whereas group B has alphabets in upper case. Hence the answer is option C.
5. In group A odd number of dots are shaded whereas in group B even number of dots are shaded. Hence the answer is option B.
6. In group A the pattern is facing inward whereas in group B the pattern is facing outward. Hence the answer is option B.
7. In group A the arrow is at the top of each alphabet whereas in group B the arrow is below the alphabet. In option A one of the alphabet has arrow at the top. Hence the answer is A.
8. Group A has horizontal lines whereas group B has vertical lines.
9. Group has multiple of 2 whereas group B has multiple of 5. Hence the answer is option C.
10. In group A each symbol has another symbol inside it whereas in group B the figure is kind of repeated. Hence the answer is option A.