

PCS Test 4

1

If $M \times N$ means M is the daughter of N; $M + N$ means M is the father of N; $M \% N$ means M is the mother of N and $M - N$ means M is the brother of N then $P \% Q + R - T \times K$ indicates which relation of P to K?

- A. Daughter-in-law
- B. Sister-in-law
- C. Aunt
- D. None of these

Explanation:

$P \% Q \rightarrow$ P is the mother of Q

$Q + R \rightarrow$ Q is the father of R

$R - T \rightarrow$ R is the brother of T

Hence, \rightarrow Q is the father of T

$T \times K \rightarrow$ T is the daughter of K

Hence, \rightarrow Q is the husband of K.

Therefore, P is the mother-in-law of K.

2

If $P + Q$ means P is the brother of Q; $P \times Q$ means P is the father of Q and $P - Q$ means P is the sister of Q, which of the following relations shows that I is the niece of K?

- A. $K + Y + Z - I$
- B. $K + Y \times I - Z$
- C. $Z - I \times Y + K$
- D. $K \times Y + I - Z$

Explanation: $K + Y \rightarrow$ K is the brother of Y

$Y \times I \rightarrow$ Y is the father of I

Hence, \rightarrow K is the uncle of I

and $I - Z \rightarrow$ I is the sister of Z

Hence, \rightarrow I is the niece of K.

3

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

Explanation: 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.

4

A is the son of C; C and Q are sisters; Z is the mother of Q and P is the son of Z. Which of the following statements is true?

- A. P and A are cousins
- B. P is the maternal uncle of A
- C. Q is the maternal grandfather of A
- D. C and P are sisters

Explanation: C and Q are sisters and A is the son of C. Hence, C is the mother of A or Z is the mother Q.

Hence, Z is the maternal grandmother of A. P is the son of Z. Hence, P is the maternal uncle of A.

5

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

Explanation: 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.

6

A school has four sections A, B, C, D of Class IX students.

The results of half yearly and annual examinations are shown in the table given below.

Result	No. of Students			
	Section A	Section B	Section C	Section D
Students failed in both Exams	28	23	17	27
Students failed in half-yearly but passed in Annual Exams	14	12	8	13
Students passed in half-yearly but failed in Annual Exams	6	17	9	15
Students passed in both Exams	64	55	46	76

If the number of students passing an examination be considered a criteria for comparison of difficulty level of two examinations, which of the following statements is true in this context?

- () A. Half yearly examinations were more difficult.
- () B. Annual examinations were more difficult.
- () C. Both the examinations had almost the same difficulty level.
- () D. The two examinations cannot be compared for difficulty level.

Explanation:

Number of students who passed half-yearly exams in the school

= (Number of students passed in half-yearly but failed in annual exams)

+ (Number of students passed in both exams)

= $(6 + 17 + 9 + 15) + (64 + 55 + 46 + 76)$

= 288.

Also, Number of students who passed annual exams in the school

= (Number of students failed in half-yearly but passed in annual exams)

+ (Number of students passed in both exams)

= $(14 + 12 + 8 + 13) + (64 + 55 + 46 + 76)$

= 288.

Since, the number of students passed in half-yearly = the number of students passed in annual exams. Therefore, it can be inferred that both the examinations had almost the same difficulty level.

Thus Statements (a), (b) and (d) are false and Statement (c) is true.

Also, number of students from Sections A and B who passed the annual exams

$$= (14 + 12) + (64 + 55)$$

$$= 145.$$

And, number of students from Sections A and B who passed the half-yearly exams

$$= (6 + 17) + (64 + 55)$$

$$= 142.$$

Since the number of students of Sections A and B who passed the annual exams is greater than those who passed the half-yearly exams it implies that for students of Sections A and B, the half-yearly exams were more difficult as compared to annual exams.

7

How many students are there in Class IX in the school?

A. 336

B. 333

C. 335

D. 430

Explanation: Since the classification of the students on the basis of their results and sections form independent groups, so the total number of students in the class:

$$= (28 + 23 + 17 + 27 + 14 + 12 + 8 + 13 + 6 + 17 + 9 + 15 + 64 + 55 + 46 + 76)$$

$$= 430.$$

8

Which section has the maximum pass percentage in at least one of the two examinations?

- () A. A Section
- () B. B Section
- () C. C Section
- () D. D Section

Explanation: Pass percentages in at least one of the two examinations for different sections are:

$$\text{For Section A } \left[\frac{(14 + 6 + 64)}{(28 + 14 + 6 + 64)} \times 100 \right] \% = \left[\frac{84}{112} \times 100 \right] \% = 75\%.$$

$$\text{For Section B } \left[\frac{(12 + 17 + 55)}{(23 + 12 + 17 + 55)} \times 100 \right] \% = \left[\frac{84}{107} \times 100 \right] \% = 78.5\%.$$

$$\text{For Section C } \left[\frac{(8 + 9 + 46)}{(17 + 8 + 9 + 46)} \times 100 \right] \% = \left[\frac{63}{80} \times 100 \right] \% = 78.75\%.$$

$$\text{For Section D } \left[\frac{(13 + 15 + 76)}{(27 + 13 + 15 + 76)} \times 100 \right] \% = \left[\frac{104}{131} \times 100 \right] \% = 79.39\%.$$

Clearly, the pass percentage is maximum for Section D.

9

Which section has the maximum success rate in annual examination?

- () A. A Section
 () B. B Section
 () C. C Section
 () D. D Section

Total number of students passed in annual exams in a section

$$= [(\text{No. of students failed in half-yearly but passed in annual exams}) \\ + (\text{No. of students passed in both exams}) \\] \text{ in that section}$$

∴ Success rate in annual exams in Section A

$$= \left[\frac{\text{No. of students of Section A passed in annual exams}}{\text{Total number of students in Section A}} \times 100 \right] \% \\ = \left[\frac{(14 + 64)}{(28 + 14 + 6 + 64)} \times 100 \right] \% \\ = \left[\frac{78}{112} \times 100 \right] \% \\ = 69.64\%$$

Similarly, success rate in annual exams in:

$$\text{Section B } \left[\frac{(12 + 55)}{(23 + 12 + 17 + 55)} \times 100 \right] \% = \left[\frac{67}{107} \times 100 \right] \% = 62.62\%$$

$$\text{Section C } \left[\frac{(8 + 46)}{(17 + 8 + 9 + 46)} \times 100 \right] \% = \left[\frac{54}{80} \times 100 \right] \% = 67.5\%$$

$$\text{Section D } \left[\frac{(13 + 76)}{(27 + 13 + 15 + 76)} \times 100 \right] \% = \left[\frac{89}{131} \times 100 \right] \% = 67.94\%$$

Explanation: Clearly, the success rate in annual examination is maximum for Section A.

10

Which section has the minimum failure rate in half yearly examination?

- () A. A section
 () B. B section
 () C. C section
 () D. D section

Total number of failures in half-yearly exams in a section

$$= [(\text{Number of students failed in both exams}) \\ + (\text{Number of students failed in half-yearly but passed in Annual exams}) \\] \text{ in that section}$$

∴ Failure rate in half-yearly exams in Section A

$$= \left[\frac{\text{Number of students of Section A failed in half-yearly}}{\text{Total number of students in Section A}} \times 100 \right] \% \\ = \left[\frac{(28 + 14)}{(28 + 14 + 6 + 64)} \times 100 \right] \% \\ = \left[\frac{42}{112} \times 100 \right] \% \\ = 37.5\%$$

Similarly, failure rate in half-yearly exams in:

$$\text{Section B } \left[\frac{(23 + 12)}{(23 + 12 + 17 + 55)} \times 100 \right] \% = \left[\frac{35}{107} \times 100 \right] \% = 32.71\%$$

$$\text{Section C } \left[\frac{(17 + 8)}{(17 + 8 + 9 + 46)} \times 100 \right] \% = \left[\frac{25}{80} \times 100 \right] \% = 31.25\%$$

$$\text{Section D } \left[\frac{(27 + 13)}{(27 + 13 + 15 + 76)} \times 100 \right] \% = \left[\frac{40}{131} \times 100 \right] \% = 30.53\%$$

Explanation:

Clearly, the failure rate is minimum for Section D.

11

Tanya is older than Eric.

Cliff is older than Tanya.

Eric is older than Cliff.

If the first two statements are true, the third statement is

- A. true
- B. false
- C. uncertain

Explanation:

Because the first two statements are true, Eric is the youngest of the three, so the third statement must be false

12

Blueberries cost more than strawberries.

Blueberries cost less than raspberries.

Raspberries cost more than both strawberries and blueberries.

If the first two statements are true, the third statement is

- A. true
- B. false
- C. uncertain

Explanation:

Because the first two statements are true, raspberries are the most expensive of the three.

13

All the trees in the park are flowering trees.

Some of the trees in the park are dogwoods.

All dogwoods in the park are flowering trees.

If the first two statements are true, the third statement is

- A. true
- B. false
- C. uncertain

Explanation:

All of the trees in the park are flowering trees, So all dogwoods in the park are flowering trees.

14

Mara runs faster than Gail.

Lily runs faster than Mara.

Gail runs faster than Lily.

If the first two statements are true, the third statement is

- A. true
- B. false
- C. uncertain

Explanation:

We know from the first two statements that Lily runs fastest. Therefore, the third statement must be false.

15

Apartments in the Riverdale Manor cost less than apartments in The Gaslight Commons.

Apartments in the Livingston Gate cost more than apartments in the The Gaslight Commons.

Of the three apartment buildings, the Livingston Gate costs the most.

If the first two statements are true, the third statement is

- A. true
- B. false
- C. uncertain

Explanation: Since the Gaslight Commons costs more than the Riverdale Manor and the Livingston Gate costs more than the Gaslight Commons, it is true that the Livingston Gate costs the most.

16

In an examination, Raj got more marks than Mukesh but not as many as Priya. Priya got more marks than Dinesh and Kamal. Dinesh got less marks than Mukesh but his marks are not the lowest in the group. Who is the second in the descending order of marks?

- A. Priya
- B. Kamal
- C. Raj
- D. None of these

Explanation:

In terms of marks obtained Mukesh < Raj, Raj < Priya, Dinesh < Priya, Kamal < Priya, Dinesh < Mukesh. Since Dinesh's marks are not the lowest, so Kamal's marks are the lowest. So, the sequence becomes: Kamal < Dinesh < Mukesh < Raj < Priya. Clearly, in the descending order, Raj comes second.

17

Read the following information given below and answer the questions that follow:

A * B means A and B are the same age.

A - B means B is younger than A.

A + B means A is younger than B.

Sachin * Madan - Reena means

- A. Reena is youngest
- B. Reena is the oldest
- C. Madan is younger than Reena
- D. None of these

Explanation: Sachin*Madan-Reena means Sachin and Madan are of the same age and Reena is younger than Madan. This means that Reena is the youngest

18

X+Y+Z is same as

- A. Y-X-Z
- B. Z-Y-X
- C. Z-X-Y
- D. None of these

Explanation:

X+Y+Z means X is younger than Y and Y is younger than Z. This can also be written as Z-Y-X.

19

For an expression Farha-Fardina-Arif which of the following cannot be correct under any circumstances?

- A. Arif is father of Farha.
- B. Arif is the younger brother of Farha.
- C. Farha is the mother of both Arif and Fardina
- D. None of these

Explanation:

Farha-Fardina-Arif means Fardina is younger than Farha and Arif is younger than Fardina. This means that Arif is younger than Farha. So, Arif cannot be the father of Farha.

20

Deven-Shashi*Hemant is opposite to

- (1) Hemant+Shashi+Deven
- (2) Hemant-Shashi+Deven
- (3) Shashi*Hemant+Deven

- (1) only
- (1) and (2) only
- (2) and (3) only
- None of these

Explanation:

Deven-Shashi*Hemant means Shashi is younger than Deven and Shashi and Hemant are of the same age. Thus Deven is the oldest.

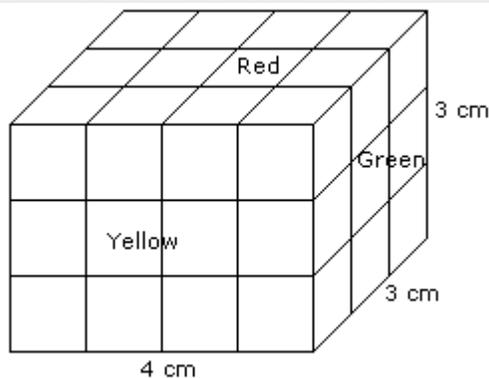
21

The following questions are based on the information given below:

1. There is a cuboid whose dimensions are 4 x 3 x 3 cm.
2. The opposite faces of dimensions 4 x 3 are coloured yellow.
3. The opposite faces of other dimensions 4 x 3 are coloured red.
4. The opposite faces of dimensions 3 x 3 are coloured green.
5. Now the cuboid is cut into small cubes of side 1 cm.

How many small cubes will have only two faces coloured ?

- A. 12
- B. 24
- C. 16
- D. 12



Explanation:

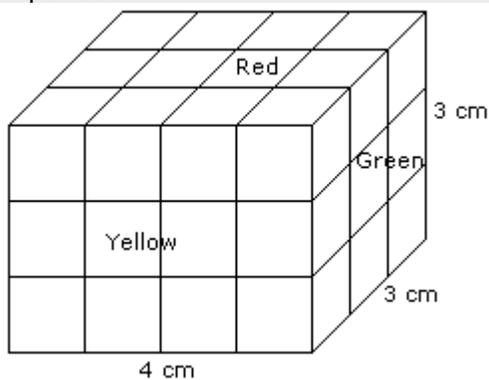
Number of small cubes having only two faces coloured = 6 from the front + 6 from the back + 2 from the left + 2 from the right = 16

22

How many small cubes have three faces coloured ?

- () A. 24
- () B. 20
- () C. 16
- () D. 8

Explanation:



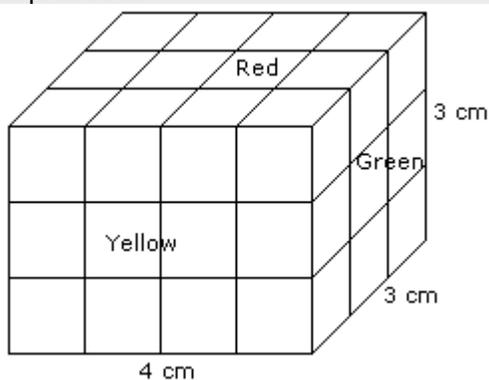
Such cubes are related to the corners of the cuboid and there are 8 corners.
Hence, the required number is 8.

23

How many small cubes will have no face coloured ?

- () A. 1
- () B. 2
- () C. 4
- () D. 8

Explanation:



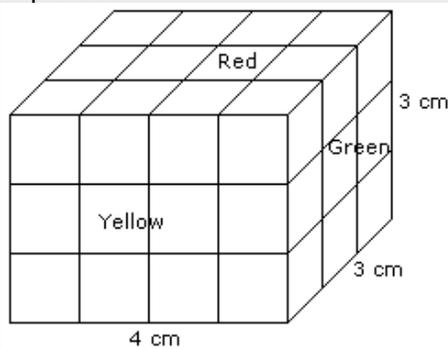
Number of small cubes have no face coloured = $(4 - 2) \times (3 - 2) = 2 \times 1 = 2$

24

How many small cubes will have only one face coloured ?

- () A. 10
- () B. 12
- () C. 14
- () D. 18

Explanation:



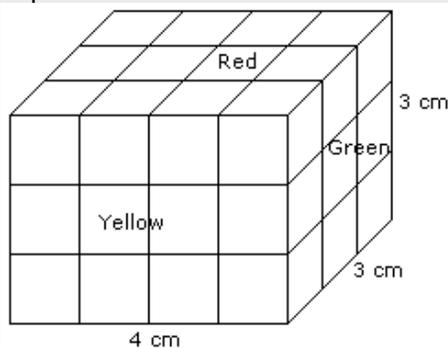
$$\begin{aligned} \text{Number of small cubes having only one face coloured} &= 2 \times 2 + 2 \times 2 + 2 \times 1 \\ &= 4 + 4 + 2 \\ &= 10 \end{aligned}$$

25

How many small cubes will be formed having only one face coloured ?

- () A. 54
- () B. 8
- () C. 16
- () D. 24

Explanation:



$$\begin{aligned} \text{No. of small cubes having only one face coloured} &= (5 - 2)^2 \times 6 \\ &= 9 \times 6 \\ &= 54 \end{aligned}$$

26

Arrange the words given below in a meaningful sequence.

1. Leaf 2. Fruit 3. Stem
4. Root 5. Flower

- A. 3, 4, 5, 1, 2
 C. 4, 1, 3, 5, 2
 B. 4, 3, 1, 5, 2
 D. 4, 3, 1, 2, 5

Explanation: The correct order is :

Root Stem Leaf Flower Fruit

4 3 1 5 2

27

Arrange the words given below in a meaningful sequence.

1. Nation 2. Village 3. City
4. District 5. State

- A. 2, 3, 4, 5, 1
 B. 2, 3, 4, 1, 5
 C. 1, 3, 5, 4, 2
 D. 1, 2, 3, 4, 5

Explanation: The correct order is : Village City District State Nation 2 3 4 5 1

28

Arrange the words given below in a meaningful sequence.

1. Windows 2. Walls 3. Floor
4. Foundation 5. Roof 6. Room

- A. 4, 5, 3, 2, 1, 6
 B. 4, 2, 1, 5, 3, 6
 C. 4, 1, 5, 6, 2, 3
 D. 4, 3, 5, 6, 2, 1

Explanation: The correct order is :

Foundation Walls Windows Roof Floor Room

4 2 1 5 3 6

31

SENTENCE CORRECTION:

He never has and ever will take such strong measures.

- A. had taken nor will ever take
- B. had taken and will ever take
- C. has and never will take
- D. had and ever will take

32

Technology must use to feed the forces of change.

- A. must be used to feed
- B. must have been using to feed
- C. must use having fed
- D. must be using to feed

33

Anyone interested in the use of computers can learn much if you have access to a personal computer.

- A. they have access
- B. access can be available
- C. he or she has access
- D. one of them have access

34

We can not always convey ourselves in simple sentences.

- A. cannot always convey
- B. can not always express
- C. cannot always express
- D. can not always communicate

35

They are not beware of all the facts

- A. are not aware for
- B. are not aware of
- C. are not to be aware
- D. must not to be aware for

36

The ground is full of seeds that cannot rise into seedlings; the seedlings rob one another of air, light and water, the strongest robber winning the day, and extinguishing his competitors. Year after year, the wild animals with which man never interferes are, on the average, neither more numerous than they were; and yet we know that the annual produce of every pair is from one to perhaps a million young; so that it is mathematically certain that, on the average, as many are killed by natural causes as are born every year, and those only escape which happen to be a little better fitted to resist destruction than those which die. The individuals of a species are like the crew of a foundered ship, and none but good swimmers have a chance of reaching the land. The literature on drug addiction has grown at a rate that defies anyone to keep abreast of the literature, and apparently in inverse proportion to our understanding of the subject. Addiction, or dependence, as it is more fashionable to call it, excites controversy and speculation yet true Understanding of the phenomenon remains elusive. In fact the area is fraught with speculation and acrimonious debate. Definition of terms such as 'drug', 'addiction', and 'abuse' is obviously less controversial than attempts to explain the nature of drug dependence, yet even the terminology is imprecise and overlain with subjective connotations. At its most basic, a drug, as defined by the World Health Organization, is simply 'any substance which when taken into the living organism may modify one or more of its functions'. This kind of definition is too wide to be of any use in a discussion of dependence: it covers everything from insulin to aspirin, penicillin to alcohol. When the explorer comes home victorious, everyone goes out to cheer him. We are all proud of his achievement - proud on behalf of the nation and of humanity. We think it is a new feather in our cap, and one we have come by cheaply. How many of those who join in the cheering were there when the expedition was fitting out, when it was short of bare necessities, when support and assistance were most urgently wanted? Was there then any race to be first? At such a time the leader has usually found himself almost alone; too often he has had to confess that his greatest difficulties were those he had to overcome at home before he could set sail. So it was with Columbus, and so it has been with many since his time. Amundsen has always reached the goal he has aimed at, this man who sailed his little yacht over the whole Arctic Ocean, round the north of America, on the course that had been sought in vain for four hundred years. So, when in 1910 he left the fjord on his great expedition in the Fram, to drift right across the North Polar Sea, would it not have been 20 natural if we had been proud of having such a man to support? But was it so? For a long time he struggled to complete his equipment. Money was still lacking, and little interest was shown in him and his work. He himself gave everything he possessed in the world. But nevertheless had to put to sea loaded with anxieties and debts, as he sailed out quietly on a summer night.

The "robber" in the first sentence is most like which of the following mentioned in the paragraph

- () A. produce of every pair
- () B. individuals of a species
- () C. crew of a foundered ship
- () A. crew of a foundered ship

37

The main point the author conveys is that

- A. natural populations of animals in the wild increase in numbers exponentially
- B. all members of a species are in violent competition with one another
- C. in the struggle to survive the fittest survive
- D. members of one generation of a population are all more or less alike

38

The author implies that he thinks the term "dependence" in the context of drugs

- A. is more accurate the older term "addiction"
- B. has not always been the preferred term
- C. is a currently under-used term
- D. is an avant-garde aberration

39

We can infer from the first sentence that

- A. not all that has been written on the subject of addiction has added to our understanding
- B. no one can have read all the literature on any drug
- C. the more that is published the more we are likely to understand
- D. writing about addiction is fashionable

40

The 'feather in our cap' refers to

- A. our willingness to take unearned credit for a triumph
- B. the pride we have in being human
- C. our sense of having got a reward for our investment
- D. way we respond to all success