

Capgemini Test 2

1

SECTION A

Find the next term in series?

25 16 9 4 1 0

- A. -1
- B. 1
- C. 0
- D. none

Explanation: $5^2, 4^2, 3^2, 2^2, 1^2, 0^2, (-1)^2 = 1$

2

Find minimum value of function: $| -5-x | + | 2-x | + | 6-x | + | 10-x |$; where x is an integer

- A. 0
- B. 17
- C. 23
- D. 19

Explanation: Considering $x=1$ $| -5-(1) | + | 2-(1) | + | 6-(1) | + | 10-(1) | = 4+1+5+9=19$ Similarly by considering $x = 2, 3, 4, \dots$ we get 19

3

45 grinders brought at Rs. 2215/-. transport expense Rs 2190/-, 2760/- on octroi. Find selling price/piece to make profit of 20%?

- A. 2585
- B. 2225
- C. 2790
- D. 3325

Explanation: Grinder price/piece = 2215

Transport exp/piece = $(2190+2760)/45 = 110$
Total acquiring price of grinder/piece = $2215+110 = 2325$
20% profit on C = $(2325 * 20)/100 = 465$
Selling price C+D = 2790

4

The last digit of $(2004)^5$ is

- A. 4
 B. 8
 C. 6
 D. 2

Explanation: As $2004 = 2000 + 4$, the last digits of $(2004)^5$ and 4^5 are equal.

i.e. $4^5 = 1024$ so unit digit is 4.

5

In a 2 digit number unit's place is halved and ten's place is doubled. Difference between the numbers is 37. Digit in unit's place is 2 more than ten's place. Find the number?

- A. 24
 B. 46
 C. 42
 D. NONE

Explanation: Let the ten's digit be x then unit digit = $x+2$

Number = $10x + (x+2) = 11x+2$ ----- (1) The number obtained by doubling digit in ten's place & by reducing unit's place digit to half the original value = $2(10x) + (x+2)/2$ ----- (2) Difference between the numbers $(1) - (2) = 37$ By solving equation $X= 4$ Therefore number $11* 4 + 2= 46$

6

If $x-y + z = 19$, $y + z = 20$, $x-z=3$, find the value of $x+4y-5z$?

- A. 22
 B. 38
 C. 17
 D. NONE

Explanation: $x-y+z=19$ ------(1)

$y+z=20$

thus $y=20-z$ ------(2)

$x-z=3$

thus $x = 3+z$ ------(3)

substitute x and y in equation (1)

you will get,

$$(3+z) - (20-z) + z = 19$$

$$3z = 36$$

$$z = 12$$

substitute z in (2) and (3)

$$\text{thus } x = 15$$

$$\text{and } y = 8$$

substitute value of x,y,z in $x+4y-5z = -13$

7

A is 4 yrs old and B is thrice A. when A is 12 yrs, how old will B be?

A. 16

B. 20

C. 24

D. 28

Explanation: A= 4 years

B = 3times A= 12 years

A will be 12 after 8 years

when A will be 12 years B will be $12 + 8 = 20$ years

8

A motorboat whose speed is 15 kmph in still water goes 30 kmph downstream and comes back in a total of 4hrs 30min.Find the speed of the stream in kmph ?

A. 4

B. 5

C. 24

D. 10

Explanation: Let the speed of the stream be x km/hr. Then,

Speed downstream = $(15 + x)$ km/hr, Speed upstream = $(15 - x)$ km/hr.

Therefore $30 / (15 + x) + 30 / (15 - x) = 4(1/2)$ $900 / (225 - x^2) = 9/2$

$$x^2 = 25$$

$$x = 5 \text{ km/hr.}$$

9

A garrison had provision for a certain number of days. After 10 days, $\frac{1}{5}$ of the men desert and it is found that the provisions will now last just as long as before. How long was that?

- A. 15
 B. 25
 C. 35
 D. 50

Explanation: Let initially there be X men having food for Y days.

After 10 days X men had food for Y-10 days. Also $X - \frac{X}{5} = \frac{4}{5}X$ had food for Y days.

Apply chain rule

$$X(Y-10) = \left(\frac{4}{5}\right) X * Y$$

$$(X*Y)-10 X = \left(\frac{4(X*Y)}{5}\right)$$

$$5(X*Y)-4(X*Y)=50X$$

$$X*Y=50X \quad Y = 50$$

10

Find the equation whose roots are 9 and 5?

- A. $x^2 - 14x + 45 = 0$
 B. $x^2 - 14x + 49 = 0$
 C. $x^2 - 10x + 45 = 0$
 D. NONE

Explanation: finding the roots of given equations

$$x^2 - 14x + 45 = 0$$

$$x^2 - 9x - 5x + 45 = 0$$

$$(x - 5)(x - 9) = 0$$

11

Find the next term in series - Y W U S Q O M?

- A. P
 B. J
 C. L
 D. NONE

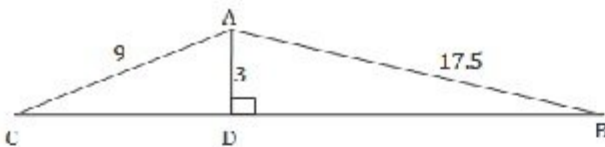
Explanation: Consider alternate letters from Z. (correct ans should be K).

12

In a triangle ABC, the lengths of the sides AB and AC equal 17.5 cm and 9 cm respectively. Let D be a point on the line segment BC such that AD is perpendicular to BC. If AD = 3 cm, then what is the radius (in cm) of the circle circumscribing the triangle ABC?

- () A. 17.05
- () B. 27.85
- () C. 22.45
- () D. 32.25
- () E. 26.25

Explanation:



We know that the area (A) of the triangle (ABC) is related to the circum radius (R) and sides of the triangle as follows:

$$R = \frac{AB * BC * AC}{4A} \quad \text{----- (1)}$$

Where,

$$\text{Area, } A = \frac{1}{2} AD * BC \quad \text{----- (2)}$$

Substituting eq (2) in (1)

$$R = \frac{AB * BC * AC}{4 * \frac{1}{2} * AD * BC}$$

$$R = \frac{(AB * AC)}{2 AD} = \frac{(17.5 * 9)}{(2 * 3)} = 26.25 \text{ cm}$$

13

Train A starts from Meerut at 12:00 pm & reach at Delhi on 2:30 pm & train B starts from Delhi at 12:15pm and reach at Meerut on 2:15pm. So, when both trains crosses each other?

- A. 1.00PM
- B. 1.15PM
- C. 1.30PM
- D. NONE

Explanation: Let the distance between Meerut & Delhi be x kms & let trains meet y hours after 12.15pm

speed of A = $x/150$ kms/min. speed of B = $x/120$ kms / min. distance covered by A in (y+15) min+ distance covered by B in y hours = $x(x/150) * (y+15) + (x/120) * y = x$ Equating the equations $Y=60$ Hence trains meet at 1.15 pm.

14

In election a candidate who gets 42% of votes, is lost by 112 votes. What is the total number of votes polled?

- A. 650
- B. 680
- C. 710
- D. 700

Explanation: Let the total number of votes polled be x,

then votes polled by other candidate = (100-42)% of x = 58% of x

Therefore 58% of x - 42% of x = 112

X = 700.

15

A boat covers 2 kms distance downstream in 1/2 hour. while it comes back in 1 hour.

Then the velocity of the current is

- A. 1 km/hr
- B. 2 km/hr
- C. 1.15 km/hr
- D. 3 km/hr

Explanation: Rate down stream = (2/0.5) kmph

Rate upstream = (2/1) kmph

Therefore velocity of current = $\frac{1}{2}(4-2) = 1$ kmph.

16

A man took loan from a bank at the rate of 12% p.a. simple interest. After 3 years he had to pay Rs. 5400 interest only for the period. The principal amount borrowed by him was:

- A. 2000
- B. 10,000
- C. 15,000
- D. 20,000

Explanation:

Principal = Rs. $(100 \times 5400) / 12 \times 3 =$ Rs. 15000.

17

A man traveled a certain distance at the rate of 15 miles/hour and came back at the rate of 10 miles/hour. What is his average speed?

- A. 10 miles/hour
- B. 15 miles/hour
- C. 17 miles/hour
- D. 12 miles/hour
- E. NONE

Explanation:

Average speed = $(2 \times 15 \times 10) / 25 = 12$ miles/ hour

18

The addition of 2 number difference of 2 number is a perfect square & the difference of both perfect square also a perfect square. Then find out this number?

- A. 2,4
- B. 4,4
- C. 6,9
- D. 6,2

Explanation:

By checking the given options

=>6, 2

=>6+2= 8, 6-2= 4 and 8-4 = 4

19

The sum of 3rd and 15th elements of an arithmetic progression is equal to the sum of 6th, 11th and 13th elements of the same progression. Then which element of the series should necessarily be equal to zero?

- A. 1st
- B. 9th
- C. 12th
- D. NONE

Explanation:

If we consider the third term to be 'x'

The 15th term will be $(x + 12d)$

6th term will be $(x + 3d)$

11th term will be $(x + 8d)$ and 13th term will be $(x + 10d)$

Thus, as per the given condition, $2x + 12d = 3x + 21d$.

Or $x + 9d = 0$

$x + 9d$ will be the 12th term.

20

$X + Y = 6$, then $XY = ?$

- A. 36
- B. 8
- C. 3
- D. 30

Explanation:

Lets us consider $x=4$, $y=2$

$x + y = 4+2=6$

$xy = 4*2=8$

21

There are three coins of Re 1, 50 ps, 25 ps having ratio of 13:11:3. the total sums of money are 77, and then find out how much Re. 1 coin is there?

- A. 22
 B. 52
 C. 27
 D. NONE

Explanation:

Let number of coins of each denomination be x.

Then as they are in ratio of 13:11:3

Then

$$(13/27)x + (11/27)(1/2)x + (3/27)(1/4)x = 77$$

Taking L.C.M. & equating LHS & RHS gives $x = 108$

$$\text{Number of 1 rupee coins} = (13/27) * 108 = 52.$$

22

Ten years ago, the ages of the members of a joint family of eight people added up to 231 years. Three years later, one member died at the age of 60 years and a child was born during the same year. After another three years, one more member died, again at 60, and a child was born during the same year. The current average age of this eight member joint family is nearest to:

- A. 23years
 B. 22 years
 C. 21 years
 D. 25 years
 E. 24 years

Explanation:

The sum of the ages of the members of the family ten years ago = 231.

The sum of the ages of the members of the family seven years ago = $231 + (3 \times 8) - 60 = 195$
The sum of the ages of the members of the family four years ago = $195 + (3 \times 8) - 60 = 159$
 \therefore The sum of the ages of the members of the family now = $159 + (4 \times 8) = 191$
 \therefore Required average = $191/8 = 23.875 \approx 24$

23

A test has 50 questions. A student scores 1 mark for a correct answer, $-\frac{1}{3}$ for a wrong answer, and $-\frac{1}{6}$ for not attempting a question. If the net score of a student is 32, the number of questions answered wrongly by that student cannot be less than?

- A. 3
 B. 6
 C. 12
 D. 9

Explanation:

Let the number of correct answers be 'x', number of wrong answers be 'y' and number of questions not attempted be 'z'.

Thus, $x + y + z = 50$... (i)

And $x - \frac{y}{3} - \frac{z}{6} = 32$

The second equation can be written as,

$6x - 2y - z = 192$... (ii)

Adding the two equations we get,

$7x - y = 242$ or $x = \frac{(242 + y)}{7}$

Since, x and y are both integers, y cannot be 1 or 2. The minimum value that y can have is 3.

24

How many even integers n, where $100 < n < 200$, are divisible neither by seven nor by nine?

- A. 40
 B. 37
 C. 38
 D. 39

Explanation:

There are 101 integers in all, of which 51 are even.

From 100 to 200, there are 14 multiples of 7, of which 7 are even.

There are 11 multiples of 9, of which 6 are even.

But there is one integer (i.e. 126) that is a multiple of both 7 and 9 and also even.

Hence the answer is $(51 - 7 - 6 + 1) = 39$

25

SECTION B

DIRECTIONS for Questions 25 and 26: Answer the questions on the basis of the information given below.

The Head of a newly formed government desires to appoint five of the six elected members A, B, C, D, E and F to portfolios of Home, Power, Defense, Telecom and Finance. F does not want any portfolio if D gets one of the five. C wants either Home or Finance or no portfolio. B says that if D gets either Power or Telecom then she must get the other one. E insists on a portfolio if A gets one.

Which is a valid assignment?

- A. A-Home, B-Power, C-Defense, D-Telecom, E-Finance.
- B. C-Home, D-Power, A-Defense, B-Telecom, E-Finance.
- C. A-Home, B-Power, E-Defense, D-Telecom, F-Finance.
- D. B-Home, F-Power, E-Defense, C-Telecom, A -Finance.

Explanation:

From the above information we can note that

=> If D gets any then F does not want any .So, option C invalid.

=> C wants in either in Home or Finance. Therefore option A and D invalid

=> So, option B answer.

26

If A gets Home and C gets Finance, then which is NOT a valid assignment for Defense and Telecom?

- A. D-Defense, B-Telecom.
- B. F-Defense, B-Telecom.
- C. B-Defense, E-Telecom.
- D. B-Defense, D-Telecom.

Explanation:

As B says that if D gets either Power or Telecom then she must get the other one option D is invalid

27

DIRECTIONS for Questions 27 to 28: Answer the questions on the basis of the information given below.

Rang Barsey Paint Company (RBPC) is in the business of manufacturing paints. RBPC buys RED, YELLOW, WHITE, ORANGE, and PINK paints. ORANGE paint can be also produced by mixing RED and YELLOW paints in equal proportions. Similarly, PINK paint can also be produced by mixing equal amounts of RED and WHITE paints. Among other paints, RBPC sells CREAM paint, (formed by mixing WHITE and YELLOW in the ratio 70:30) AVOCADO paint (formed by mixing equal amounts of ORANGE and PINK paint) and WASHEDORANGE paint (formed by mixing equal amounts of ORANGE and WHITE paint). The following table provides the price at which RBPC buys paints.

Color	Rs. /liter
RED	20
YELLOW	25
WHITE	15
ORANGE	22
PINK	18

WASHEDORANGE can be manufactured by mixing

- () A. CREAM and RED in the ratio 14:10
- () B. CREAM and RED in the ratio 3:1
- () C. YELLOW and PINK in the ratio 1:1
- () D. RED, YELLOW, and WHITE in the ratio 1:1:2

Explanation:

Mixing equal amounts of ORANGE and WHITE can make WASHED ORANGE; ORANGE can be made by mixing equal amounts of RED and YELLOW. So the ratio of RED, YELLOW and WHITE is 1:1:2

28

Assume that AVOCADO, CREAM, and WASHEDORANGE each sell for the same

- () A. AVOCADO.
- () B. CREAM.
- () C. WASHEDORANGE
- () D. Sufficient data is not available.

Explanation:

If cost of AVOCADO paint is Rs.19.75

The cost of the CREAM is $[(7 \times 15) + (3 \times 75)]/10 = \text{Rs. } 18$

And cost of WASHEDORANGE is Rs.18.50

So CREAM is the most profitable.

29

DIRECTIONS for Questions 29 to 31: Answer the questions on the basis of the information given below.

A, B, C, D, E, and F are a group of friends. There are two housewives, one professor, one engineer, one accountant and one lawyer in the group. There are only two married couples in the group. The lawyer is married to D, who is a housewife. No woman in the group is either an engineer or an accountant. C the accountant is married to F, who is a professor. A is married to a housewife. E is not a housewife.

Which of the following is one of the married couples?

- A. A & B
- B. B & E
- C. D & E
- D. A & D

Explanation:

As there is only two married couple in group i. e,

C married to F

The lawyer is married to D, who is a housewife and A is married to a housewife. From this statement we can know that A & D are another married couple.

30

What is E's profession?

- A. Engineer
- B. Lawyer
- C. Professor
- D. Accountant

Explanation:

A is Lawyer, D is house wife, c is Accountant, and F is Professor

B is housewife (since E is not a housewife.) then E is Engineer

31

How many members of the group are males?

- A. 2
 B. 3
 C. 4
 D. NONE

Explanation:

Males - A, C and E

32

DIRECTIONS for Questions 32 to 35: Answer the questions on the basis of the information given below.

Four girls Robin, Mandy, Stacy, Erica of four families Miller, Jacob, Flure and Clark prepare four salads using the fruits Apples, cherries, bananas, grapes .Each girls uses 3 fruits in her salad. No body has the same combination.

1. Robin not a Miller girl uses apples.
2. Miller and Mandy uses apples and cherries.
3. Clark uses cherries and grapes but Flure uses only one of them.
4. Erica is neither Clark nor Flure have

Which is robin's fruit combination?

- A. Apples, cherries, Bananas
 B. Apples, Cherries, Grapes
 C. Apples, Grapes, Bananas
 D. Cherries, Grapes, Bananas

Explanation:

=> Miller family must fit into 1st or 2nd combination (according to 2nd condition)

=> Robin does not belong to Miller family. Therefore robin does not fit into 1st and 2nd combination.

=> But Robin uses apple. Therefore, exactly robin fits into 4th combination.

33

Which is robin's family ?

- A. Miller
- B. Jacob
- C. Flure
- D. Clark

Explanation:

From the 3rd condition. Flure uses only one of them between cherries and grapes. Therefore Flure family must fit into 1st or 4th combination.

If we assume that flure fits into 1st combination, the status of solution is like this:

A C B _____ Flure
 A C G _____
 B G C _____
 G A B Robin _____

=> Now according to 2nd condition, Miller must fit into 2nd combination only. And according to 3rd condition, Clark must fit into 3rd condition only. Therefore Jacob will fit into the 4th combination, i.e.

A C B _____ Flure
 A C G _____ Miller
 B G C _____ Clark
 G A B Robin Jacob

34

Which is the combination by Erica?

- A. Apples, cherries, Bananas
- B. Apples, Cherries, Grapes
- C. Apples, Grapes, Bananas
- D. Cherries, Grapes, Bananas

Explanation:

Now according to 4th condition, Erica must fit into 2nd combination.

A C B Flure
 A C G Erica Miller
 B G C Clark
 G A B Robin Jacob

35

Which fruit is not used by Mandy?

- A. Cherries
- B. Grapes
- C. Apples
- D. Bananas

Explanation:

And according to 2nd condition Mandy must fit into the 1st combination. The left over is 3rd combination and therefore Stacy fits there. i.e.

A C B Mandy Flure

A C G Erica Miller

B G C Stacy Clark

G A B Robin Jacob

36

DIRECTIONS for Questions 36 to 40: Answer the questions on the basis of the information given below.

S L I D E

(-) D E A N

3 6 5 1

each of 7 digits from 1,2,3,4,5,6 & 9 is represented by letter in the subtraction of problem above.

Which letter is represented by the number "3"?

- A. L
- B. E
- C. N
- D. NONE

Explanation: 3 6 5 1

(+) D E A N

S L I D E

$3 + D + \text{carry [If any]}$ is equal to SL. But as it is clear that highest sum of there given number can be

$(9 + 3 + 1) = 14$ so $S = 1$

Now it is also clear that D is either 6 or 9 but D cannot be 6, because in that case L, is equal to 0, which is not possible.

So $D = 9$

Now from that it is clear that L Letter is either 2 or 3 & $A = 4$, It is also clear that E cannot be equal to 5, 4, 3, 2, 1

So, $E = 6$ then $L = 3$.

37

Which letter is represented by the no "5"?

- A. E
- B. N
- C. A
- D. NONE

Explanation:

$$E - N = 1$$

We know that E = 6. Therefore N = 5

38

Which no is presented by the letter "E"?

- A. 9
- B. 6
- C. 4
- D. NONE

Explanation:

S L I D E

(-) D E A N

 3 6 5 1

3+D+carry [if any] is equal to SL. But as it is clear that highest sum of there given number can be (9+3+1) =14 so S = 1. Now it is also clear that D is either 6 or 9 but D cannot be 6, because in that case L is equal to 0, which is not possible.

So D = 9 and E cannot be equal to 5, 4,3,2,1. So, E=6.

39

Which letter is presented by the no "6"?

- A. N
- B. A
- C. I
- D. NONE

Explanation:

S L I D E

(-) D E A N

 3 6 5 1

3+D+carry [If any] is equal to SL. But as it is clear that highest sum of there given number can be (9+3+1) =14 so S = 1. Now it is also clear that D is either 6 or 9 but D cannot be 6, because in that case L is equal to 0, which is not possible.

So D = 9 and E cannot be equal to 5, 4,3,2,1. So, E=6.

40

Which letter is presented by the no "1"?

- A. I
- B. N
- C. S
- D. NONE

Explanation:

S L I D E

(-) D E A N

 3 6 5 1

3+D+carry [If any] is equal to SL. But as it is clear that highest sum of there given number can be (9+3+1) =14 so S = 1.

41

The average weight of a class of 100 students is 45 kg. The class consists of two sections, I and II, each with 50 students. The average weight W_I of Section I is smaller than the average weight W_{II} of Section II. If the heaviest student say Deepak of Section II is moved to Section I and the lightest student say Poonam of Section I is moved to Section II, then the average weights of the two sections are switched, i.e., the average weight of Section I becomes W_{II} and that of Section II becomes W_I . What is the weight of Poonam?

A. $W_{II} - W_I = 1.0$

B. Moving Deepak from Section II to I makes the average weights of the two sections equal.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Let the weights of Deepak and Poonam be d and p respectively.

$$(50W_{II} + 50W_I)/100 = 45 \therefore$$

$$W_{II} + W_I = 90 \quad (1)$$

$$50W_I + d - p = 50W_{II}$$

$$50W_{II} - d + p = 50W_I \therefore$$

$$50(W_{II} - W_I) = d - p \quad (2)$$

From Statement A, $W_{II} - W_I = 1 \quad (3)$

From (1), (2) and (3), W_I and W_{II} can be found. Also, $d - p = 50 \quad (4)$

However this information does not give us the value of p . Statement A is insufficient to answer the question.

From Statement B,

$$49(W_I + d) = 51(W_{II} - d) \therefore$$

$$51W_{II} - 49W_I = 100d \quad (5)$$

This alone cannot help us find the value of p . Statement B is insufficient to answer the question.

Considering both statements together, we have values of W_I and W_{II} , which can be substituted in (5) to find d , which can be used to find p using (4). Hence, option C.

42

Consider integers x , y and z . What is the minimum possible value of $x^2 + y^2 + z^2$?

A. $x + y + z = 89$

B. Among x , y , z two is equal.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Statement A: $x + y + z = 89$

$x^2 + y^2 + z^2$ will be minimum when $x = y = z = 89/3$

But $89/3$ is a non-integer. \therefore We consider integer values of x , y , z which are as close as possible to $89/3$.

We get two cases: 1.

$x, y, z = 30, 30, 29$

$x^2 + y^2 + z^2 = 2641$

$x, y, z = 31, 29, 29$ $x^2 + y^2 + z^2 = 2643$

Minimum possible value of $x^2 + y^2 + z^2$ is 2641. Thus statement A is sufficient to get the answer. Though statement B states a fact related to the minimum value, it is not necessary to arrive at the minimum value.

Hence, option A

43

Rahim plans to draw a square JKLM with a point O on the side JK but is not successful. Why is Rahim unable to draw the square?

A. The length of OM is twice that of OL.

B. The length of OM is 4 cm.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Let p be the side of square JKLM.

From Statement A,

$$OM = 2 \times OL$$

OM is maximum when it is the diagonal of the square and has length p

When OM is maximum, $OM = OL \therefore$

$OM \neq 2 \times OL$ if O lies on JK. \therefore

Rahim is unable to draw the square. Hence, option A.

44

ABC Corporation is required to maintain at least 400 Kilolitres of water at all times in its factory, in order to meet safety and regulatory requirements. ABC is considering the suitability of a spherical tank with uniform wall thickness for the purpose. The outer diameter of the tank is 10 meters. Is the tank capacity adequate to meet ABC's requirements?

A. The inner diameter of the tank is at least 8 meters.

B. The tank weighs 30,000 kg when empty, and is made of a material with density of 3 gm/cc.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Let the inner radius be r meter. Capacity of tank = $(1 \text{ m}^3 = 1 \text{ kilolitre})$

From statement A, since $r = 4\text{m}$. Capacity of tank $> 256 \text{ m}^3$

Since the capacity needed is more than 256 m^3 statement A is insufficient.

From statement B, Volume of the material of tank = mass/density = $30000\text{kg}/(3 \text{ gm/cc}) =$

$$10,000,000 \text{ cm}^3 = 10 \text{ m}^3$$

Hence the inner volume of tank = Outer volume - Volume of material of tank

Therefore, we can say that the tank capacity is adequate.

Hence, option B

45

How long will it take for two pipes A and B to fill an empty cistern if they worked alternately for an hour each?

A. Working alone, Pipe A can fill the cistern in 40 hours.

B. Pipe B is one third as efficient as Pipe A.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation: From statement A, we know that Pipe A can fill the tank in 40 hours. However, this information is not sufficient as we do not have the data for Pipe B. question.

From statement B, we know that Pipe B is one third as efficient as pipe A. However, we do not know the rate at which Pipe A fills the tank. Hence, we will not be able to find the rate at which Pipe B fills the cistern. Therefore, statement B alone is not sufficient to answer the question.

Now, if we combine the two statements, we know that Pipe A take 40 hours to fill the cistern. Pipe B takes 120 hours to fill the cistern.

46

A game consists of tossing a coin successively. There is an entry fee of Rs. 10 and an additional fee of Re. 1 for each toss of the coin. The game is considered to have ended normally when the coin turns heads on two consecutive throws. In this case the player is paid Rs. 100. Alternatively, the player can choose to terminate the game prematurely after any of the tosses. Ram has incurred a loss of Rs 50 by playing this game. How many times did he toss the coin?

A. The game ended normally. B. The total number of tails obtained in the game was 138.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Explanation: From both statements individually. If x is the number of tosses he took, from statement A we get the equation $10 + x - 100 = 50$. Thus $x = 140$. From statement B individually, we have $x > 138$.

Thus we are sure he has paid up more than 148. If he incurs a loss of only Rs. 50, the game has to end normally. Thus the above state of his taking 150 shots with first 138 as tails and 139 and 140 throw as tails is the scenario. With no other scenario will a loss of just 50 and 138 tails show up.

47

What is the value of X, if X and Y are two distinct integers and their product is 30?

A. X is an odd integer

B. $X > Y$

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Statement A: From this statement, we know that the value of X is odd. Therefore, X can be one of the following values: 1, -1, 3, -3, 5, -5. So, using the information in statement I we will not be able to conclusively decide the value of X. Hence, statement I alone is not sufficient to answer the question.

Statement B: From this statement, we know that the value of $X > Y$. From the given combinations, X can take more than one value. Hence, using the information in statement II, we will not be able to find the value of X.

Combining the two statements, we know that X is odd and that the value of $X > Y$.

The combinations that satisfy both the conditions include X taking the value of -1, -3 and -5.

48

What is the length of a running train crossing another 180 meter long train running in the opposite direction?

A. The relative speed of the two trains was 150 kmph.

B. The trains took 9 seconds to cross each other.

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

Let the two trains of length a meters and b meters be moving in opposite directions at u m/s and v m/s.

Time taken to cross each other $(a + b) / (u + v)$ sec

Now, $b = 180$, $u + v = 150 * (5/18) = (125/3)$ m/sec

$9 = (a + 180) / (125/3)$

$a = (375 - 180) = 195$ m.

49

Is m divisible by 6?

A. m is divisible by 3

B. m is divisible by 4

A. using I only

B. using II only

C. using both I and II

D. Cannot be Determined

Explanation:

From statement A we know that m is divisible by 3. However, this does not answer the question if m is also divisible by 2. Hence, statement (A) alone is not sufficient.

From statement (B) we know that m is divisible by 4. If m is divisible by 4, then m should surely be divisible by 2. However, from statement (B) alone we do not know if m is divisible by 3. Therefore, statement (B) alone is also not sufficient.

Combining the two statements, we know that m is divisible by 3 and by 4. Hence, we can conclude that m is divisible by 6. Choice C is correct.

50

The Parallelogram ABCD, the line CD has midpoint E from line AB, then the ration of Triangle AED / parallelogram ABCD=

A. 2:1

B. 1:2

C. 4:1

D 1:4

Explanation:

Line joining from AD and BC divides the parallelogram into 4 equal parts .Therefore the area of ABCD = 4 area of AED; Area of AED/Area of ABCD = $\frac{1}{4}$