1. Mr.P and Mr.Q can build a wall in 10 days; Mr.Q & Mr.R can take 14 days to build the same wall; and Mr.P and Mr.R can do it in 8 days. Who among them will take more time when they work alone?
a. p
b. q
c. r
d. data inadequate
Answer: b
Explanation:
Let the total work be 280 units.
Now P and Q capacity per day = 280/10 = 28 units.
Q and R capacity per day =280/14 = 20 units
P and R capacity per day = 280/8 = 25 units.
Adding all the three,
2(P + Q + R) = 73 ⇒ P + Q + R = 36.5 units.
We are asked to find who will take maximum time. So the capacity is minimum. R capacity is minimum as (P + Q + R) - (P + R) = 36.5 - 28 = 8.5.

2. Each week the forensics teams at Roslyn High School and Manchester High School debate each other. Each team has several members, and each week three are selected to debate. Whenever Aviva debates for Roslyn, Roslyn wins; and whenever Zachary debates for Roslyn, Roslyn wins. Whenever Josh debates for Roslyn, Manchester wins. If one week Roslyn lost to Manchester, which of the following must be true?
(a) Josh debated for Roslyn.
(b) Either Aviva or Zachary debated for Roslyn.
(c) Neither Aviva nor Zachary debated for Roslyn.
(d) Josh and either Aviva or Zachary debated for Roslyn.
Answer: A
Explanation:
It is clear that if Josh debates for Rosln, Manchester wins. So Option A is correct.

3. In a class of boys and girls Vikas's rank is 9th and Tanvi's rank is 17th . Vikas's rank among the boys in that class is 4th from the top and 18th from the bottom and Tanvi's rank among the girls is 8th from top and 21st from bottom. In the order of rank, how many girls are there between Tanvi and Vikas?
A) 1
B) 2
C) 5
D) 3
Answer: b
Explanation:
Vikas's rank in the class is 9. So there are 8 people before him. His rank among boys is 4. So 3 boys are before him. So there are 8 – 3 = 5 girls before him. Tanvi's rank among the girls is 8. So there are 7 girls before her. So number of girls between Vikas and Tanvi is 7 – 5 = 2

4. Two Equal Amounts of Money are lent out at 6% and 5 % simple Interest respectively at the same time. The former is recovered two years earlier than the latter and the amount so recovered in each case is Rs.2800. Determine the amount that is lent out?
A) 1950
B) 1500
C) 1800
D) 1375
Answer:
Explanation:
Let the first amount lent for t + 2 years and second at t years. and amount = P
Now amount = P +

$$\frac{P \times t \times 6}{100} = \frac{P \times (t+2) \times 5}{100} = 2800.$$

Equating first two parts, we get

$$\frac{t \times 6}{100} = \frac{(t+2) \times 5}{100}$$

$\Rightarrow t = 10.$

Now

$$P + \frac{P \times 10 \times 6}{100} = 2800$$

$$\Rightarrow \frac{16}{10}P = 2800$$

$\Rightarrow P = 1750.$

5. A starts business with Rs.3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2 : 3. What is B's

contribution in the Capital ?
Answer: 9000
Explanation:
A invested Rs.3500 for 12 months.
Let B joined with investment x. And he invested for 12 - 5 = 7 months.
So there profit ratio = (3500 × 12) : (7x) = 2 : 3
⇒ x = 9000

6. Rajan and Rakesh started a business and invested Rs.20000 and Rs.25000
respectively. After 4 months Rakesh left and Mukesh joined by investing Rs.15000.
At the end of the year there was a profit of Rs.4600. What is the share of Mukesh?
A). Rs.1500
B). Rs.1400
C). Rs.1300
D). Rs.1200
Answer: d
Explanation:
Rajan is in the business for 12 months, Rakesh is for 4, and Mukesh is for 8.
Profits will be divided in ratio of (20 × 12) : (25 × 4) : (15 × 8) = 24 : 10 : 12
Share of Mukesh =
12
46
×
4600
=
1200

7. Plastic strap are wound around large cardboard boxes to reinforce them during
shipping. Suppose the end of the strap must overlap 7/16 inch to fasten. How long
is the plastic strap around the box of dimensions 28 5/16 inch × 24 9/16 inch
A). 106 3/16
B). 96 3/16
C). 105 3/16
D). 107 3/16
Answer: a
Explanation:
Strap should cover two walls of the given parameter.
2 × (28 5/16 inch + 24 9/16 inch) + 7/16 = 106 3/16 inch

8. In a game each person is dealt three cards from a deck of 52 cards and a player
is said to have a winning deck if & only if he or she has a king, queen & a jack
each , irrespective of the color of the sign. What is the total possible number of
winning decks for this game?
(a)1
(b)4
(c)16
(d)64
(e)128
Answer: d
Explanation:
Here king can be selected in 4C1 ways
And other is queen & jack are also selected in the same way.
So 4C1 × 4C1 × 4C1 = 4 × 4 × 4 = 64

9. In a group of cows and hens, the number of legs are 14 more than twice the
number of heads. The number of cows is :
a. 5
b. 7
c. 10

d. 12

Answer: b
Explanation:
Let the number of cows be x and hens be y.
So heads = x + y
Legs = 4x + 2y
Now
⇒ 4x + 2y = 2(x + y) + 14
⇒2x = 14
⇒ x = 7.

10.
1 = 5
2 = 10
3 = 15
4 = 20
5 = ?
Answer: 1
Explanation:
Check the question clearly.
Answer is "1" as 1 = 5
Then 5 should be 1.

11. If six persons sit around a table, the probability that some specified three of them are always together is
a)1/20
b)3/10
c)1/5
d)4/5
Answer: b
Explanation:
Let us group those 3 persons into one. Now 4 elements can be arranged in a circle in (4 - 1)! ways. Now those three persons in that group can arrange themselves in 3! ways. So total ways = 3! × 3!.
Total ways of arranging 6 persons around a circle = (6-1)!.
Probability =
$$\frac{3! \times 3!}{5!} = \frac{3}{10}$$

12. Out of four numbers ,the average of first three is 16 and that of the last three is 15 .If the last number is 18,the first number is :
A) 20
B) 21
C) 23
D) 25

Answer: b
Explanation:
Let the numbers be a, b, c, d

From the 1st condition, Sum of the first three numbers = a + b + c = 16 × 3 = 48
In the 2nd condition, b + c + d = 45
Now,d is given value as 18
thus, b + c + 18 = 45
b + c = 27
Putting the value of b + c in equation, a + b + c = 48
⇒ a + 27 = 48
⇒ a = 21

13. Mr. X has to build a wall 1000 meters long in 50 days. He employs 56 men but at
the end of 27 days finds that only 448 meters are built. How many more men must be
employed so that the work may be finished in time?
a)58
b)81
c)38
d)25

Answer: d
Explanation:
Initially Mr.X over estimated the capacity of the workers. Infact, 56 men built 448
meters in 27 days. So our problem is to find How many men can built 552 meters in
23 days. Use chain rule.
Required number of men =
56
×
552
448
×
27
23
 = 81
Additional number of men = 81 – 56 = 25

14. In a race you drove 1st lap with 40 kmph and in the second lap at what speed
you must drive so that your average speed must be 80 kmph.
Answer: Infinity
Explanation:
Infinite speed.
Let distance of lap be d km.
Total distance = 2d km.
Time for first lap = d/40 kmph and that for second lap = d/x kmph, where x is
requied speed.
Average speed = (total distance)/ (total time)
⇒ 2d/(d/40+d/x)
⇒ 2/(1/40+1/x).
Given this is equal to 80.
So, 2/(1/40+1/x) = 80
2 = 2 + 80/x.
Which means 80/x = 0.
For that x must be equal to infinity.

15. A and B working separately can do a piece of work in 6 and 9 days respectively;
they work on alternate days starting with A on the first day. In how many days will
the work be done?
Answer: 7
Explanation:
A = 1/6 days
B = 1/9 days
With A starting the work

In a period of 2 days work done by a and b = 1/6 + 1/9 = 5/18
In 3 such periods work done = 5/18 + 5/18 +5/18 = 15/18
Remaining work = 1 – 15/18 = 1/6
Now its a turns and it can complete the remaining work
So number of days = 3 × 2 + 1 = 7

16. In a certain office, 72% of the workers prefer tea and 44% prefer coffee. If each of them prefers tea or coffee and 40 like both, the total number of workers in the office is :
a. 200
b. 240
c. 250
d. 320
Answer: c
Explanation:
If the total number of workers is 100 then 72 prefer tea and 44 prefer coffee.
n(Tea ∪ Coffee) = n(Tea) + n(Coffee) - n(Tea ∩ Coffee)
100 = 72 + 44 – x
x = 116 – 100 = 16.
Therefore Out of 100 workers, 16 take both coffee and tea.
But as per the problem 40 take both coffee and tea
100 - - - 16
? - - - - - 40
(40/16) × 100 = 250.

17. P & Q can draw a picture in 144 hours; Q & R can draw a same picture in 240 hours; P & R can finish it in 180 hours. What will be the time taken by P alone to draw the picture?
a) 280 hours
b) 240 hours
c) 200 hours
d) 300 hours
Answer: b
Explanation:
Given that, (P + Q) takes 144 hours; i.e., (P + Q)'s 1 hour's work =
1
144

(Q + R) takes 240 hours; i.e., (Q + R)'s 1 hour's work =
1
240

(P + R) takes 180 hours; i.e., (P + R)'s 1 hour's work =
1
180

Adding above 3, we get,
2(P + Q + R)'s 1 hour's work =
1
144
+
1
240
+
1
180
 =
5
+

$$\frac{3+4}{720} = \frac{12}{720} = \frac{1}{60}$$

2(P+Q+R)'s 1 hour's work = $\frac{1}{60}$

Therefore, (P+Q+R)'s 1 hour's work = $\frac{1}{120}$

Now, P's 1 hour's work = (P+Q+R)'s 1 hour's work - (Q+R)'s 1 hour's work

$$= \frac{1}{120} - \frac{1}{240} = \frac{1}{240}$$

Therefore P alone takes 240 hours.