1	Mr.P a	nd Mr.Q c	an build a	wall in 10	days; Mr.	Q & Mr.R	can take	14 days t	o build t	he same	wall; and	Mr.P
a	nd Mr.R	can do it	in 8 days.	Who amo	ng them w	vill take m	ore time	when they	/ work a	lone?		

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,

$$2(P + Q + R) = 73 \Rightarrow P + Q + R = 36.5$$
 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?

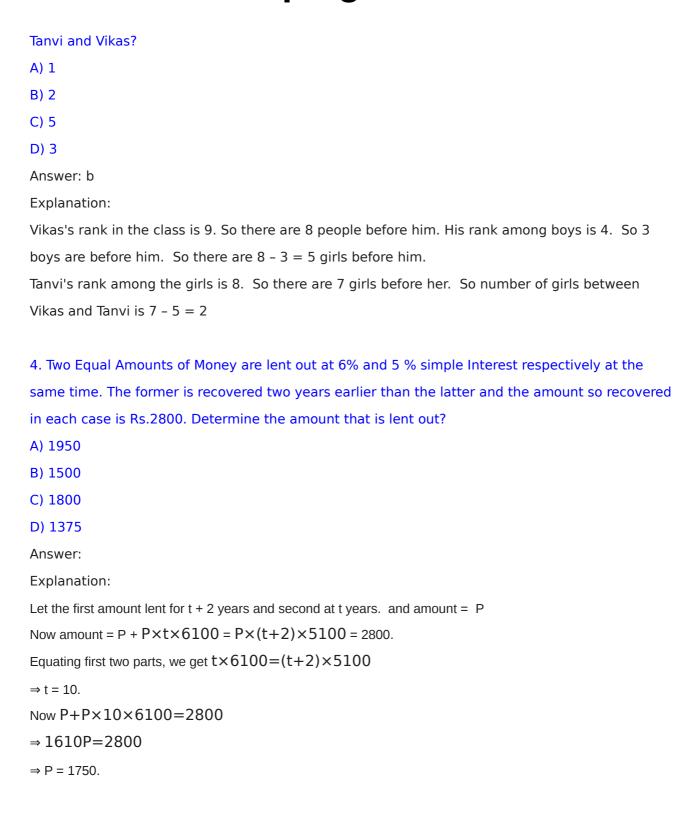
- (a) Josh debated for Roslyn.
- (b) Either Aviva or Zachary debated for Roslyn.
- (c) Neither Aviva nor Zachary debated for Roslyn.
- (d) Josh and either Aviva or Zachary debated for Roslyn.

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



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 =  $(3500 \times 12) : (7x) = 2 : 3$ 

 $\Rightarrow x = 9000$ 

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  $(20 \times 12) : (25 \times 4) : (15 \times 8) = 24 : 10 : 12$ 

Share of Mukesh =  $1246 \times 4600 = 1200$ 

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  $\times\,24\,9/16$  inch

A). 106 3/16

B). 96 3/16

C). 105 3/16

D). 107 3/16

Answer: a

**Explanation:** 

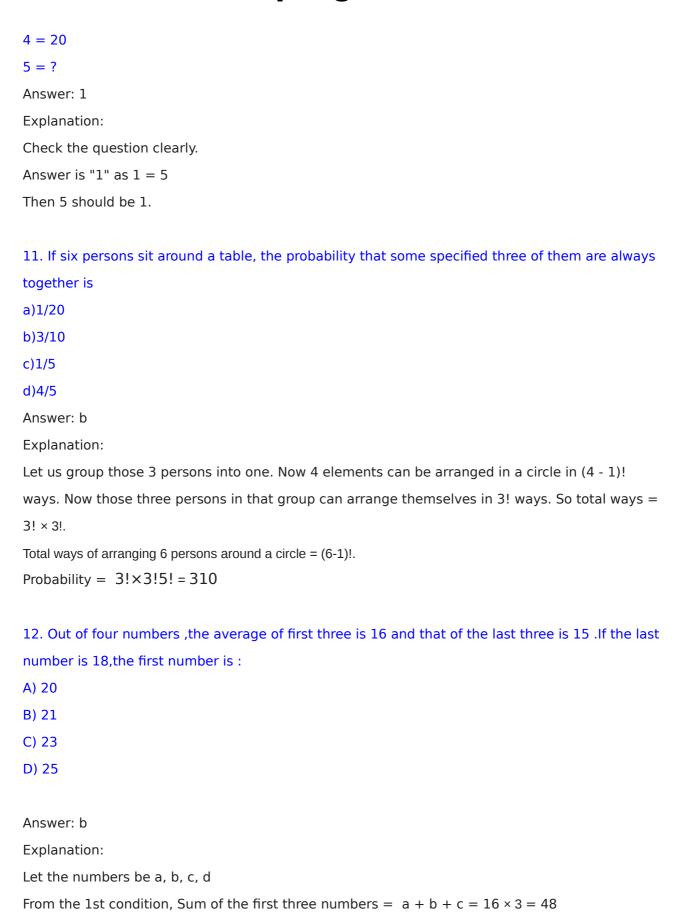
Strap should cover two walls of the given parameter.

 $2 \times (285/16 \text{ inch} + 249/16 \text{ inch}) + 7/16 = 1063/16 \text{ inch}$ 

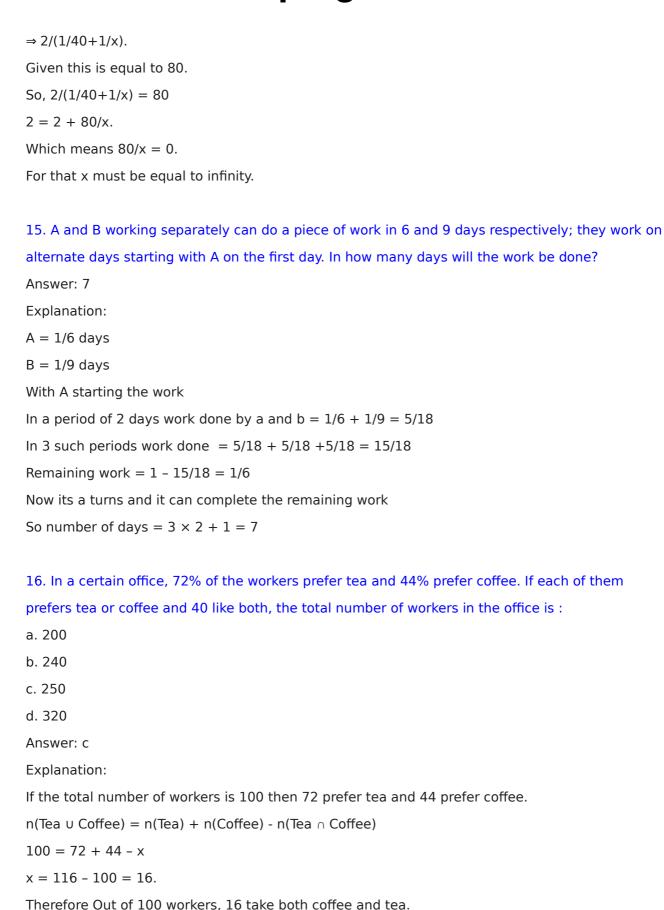
8. In a game each person is dealt three cards from a deck of 52 cards and a player is said to have a winning deck if & only if he or she has a king, queen & a jack each, irrespective of the color of

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 ${}^4\mathrm{C}_1$ ways
And other is queen & jack are also selected in the same way.
So ${}^{4}C_{1} \times 4C1 \times 4C1 = 4 \times 4 \times 4 = 64$
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
$\Rightarrow 4x + 2y = 2(x + y) + 14$
$\Rightarrow$ 2x = 14
$\Rightarrow$ x = 7.
10.
1 = 5

2 = 103 = 15



In the 2nd condition, b + c + d = 45Now,d is given value as 18 thus, b + c + 18 = 45b + c = 27Putting the value of b + c in equation, a + b + c = 48 $\Rightarrow$  a + 27 = 48  $\Rightarrow$  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 =  $56 \times 552448 \times 2723 = 81$ Additional number of men = 81 - 56 = 2514. 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)  $\Rightarrow$  2d/(d/40+d/x)



But as per the problem 40 take both coffee and tea

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100 - - - 16
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 $(40/16) \times 100 = 250.$ 

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 = 1144

(Q + R) takes 240 hours; i.e., (Q + R)'s 1 hour's work = 1240

(P + R) takes 180 hours; i.e., (P + R)'s 1 hour's work = 1180

Adding above 3, we get,

2(P + Q + R)'s 1 hour's work = 1144+1240+1180 = 5+3+4720 = 12720 = 160

2(P+Q+R)'s 1 hour's work = 160

Therefore, (P+Q+R)'s 1 hour's work = 1120

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

= 1120 - 1240 = 1240

Therefore P alone takes 240 hours.