Infosys Aptitude Questions and Answers

1) There was a cycle race going on. 1/5th of those in front of a person and 5/6 of those behind him gives the total number of participants. How many people took part in the race?

Solution:

let us assume number of participants = x

Based on the condition x.1/5+x.6/5=x+1/5+1/6

(x-1)1/5+(x-1)6/5=x

x=31

2) X^1/3 -X^1/9 = 60.then find X?

Solution:

let us take X=a^9 . Then, (a^9)^1/3-(a^9)^1/9 =60

a^9/3-a^9/9=60

a^3-a=60

a(a^2-1)=60

by solving this ,a=4

3) There are 10 points in three parallel planes, the first plane contain 5 points, the second plane contains 3 points and the third plane contain rest of them, then how many triangles to be formed?

a) 104

b) 109

c) 105

d) 106

e) None of these

Solution:

In general, 3 points are needed for forming a triangle. Therefore from 10 points, we can form 10c3 triangles but

out of 10 points 5 (1st line), 3 (2nd line), 2 (3rd line) points are collinear. So we have to eliminate those points and hence we subtract those colinear points from 10c3

ie, =(10c3)-(5c3)-(3c3)

=120-10-1

=109

4) 200 meter train travel with the speed of 120 kmph and other train travel in opposite direction with speed of 80 kmph in 9 seconds. Then find the length of the other train?

a) 240

b) 300

c) 260

d) 270

Solution:

Time = Distance / Speed

Distance = Length1+Length2 = 200+Length2

Speed = S1+S2 = 120+80 = 200

Time = 9sec = 9*(5/18) = 5/2 = 2.5

So now L2 = 300m

5) Class P has 30 students of which 20 like Music. In class Q, 10 students like Music. Find the number of students in Class Q if the average number of students who like Music in a class is 16.

Solution:

let the number of students in class Q be x, so here the total number of students in P is 30 and 20 people like music and in Q 10 like music, so the combined mean of

students who like music in both the classes is 16 (the average number of students who like music in a class)

hence the applying formula of combined mean , ((30*20)+(x*10))/(30+x) = 16, solving we get x=20.

6) Ram & Shyam started from a point X and Y respectively and started moving towards each other. After they met Ram took 4 hours to reach Y and Shyam took 16 hours to reach X. Rams speed is 48 kmph. What is the speed of Shyam?

1) 24kmph

2) 56kmph

3) 32kmph

4) 12kmph

5) 24kmph

Solution:

Let the speed of Shyam be 'x'kmph, then the ratio of speed of Ram and Shyam = Square root of (Time taken by Shyam to Reach X after they meet / Time taken by Ram to Reach Y after they meet)

= 48/x = Sqrt(16/4)

= 48/x = 2

x = 24

7) A train leaves Meerut at 5 a.m. and reaches Delhi at 9 a.m. Another train leaves Delhi at 7 a.m. and reaches Meerut at 10.30 a.m. At what time do the two trains travel in order to cross each other?

Solution:

The first train takes 4 hours and the second train takes 3.5 hours.

Time ratio is 8:7. Therefore, the speed ratio will be 7:8.

Let the speeds be 7x and 8x, and distance is 28x (4x7 or 3.5x8).

At 7 AM, the first train must have covered a distance of 14x. Therefore, at 7 A.M. the distance between the two trains is 28x-14x=14x.

Time taken to meet = 14x/(7x+8x)=14/15 hour or 56 minutes.

Hence, the two trains meet at 7.56 AM.

8) A man reaches his office 20 min late if he walks from his home at 3 km per hour and reaches 30 min early if he walks 4 km per hour. How far is his office from his house?

1) 20 km

2) 16 km

3) 14 km

4) 10 km

Solution:

Let distance = x km.

Time taken at 3 kmph : dist/speed = x/3 = 20 min late.

time taken at 4 kmph : x/4 = 30 min earlier

difference between time taken : 30-(-20) = 50 mins = 50/60 hours.

x/3- x/4 = 50/60

x/12 = 5/6

x =10 km.

9) Some articles were bought at 6 articles for Rs. 5 and sold at 5 articles for Rs. 6. Gain percent is:

1)30%

2)33.33%

3)35%

4)44%

Solution:

Suppose, number of articles bought = L.C.M. of 6 and 5 = 30.

C.P. of 30 articles = Rs. 5/6 x 30 = Rs. 25.

S.P. of 30 articles = Rs. 6/5 x 30 = Rs. 36.

Gain % = 11/25 x 100 % = 44%.

10) How many kilograms of sugar costing Rs. 9 per kg must be mixed with 27 kg of sugar costing Rs.7 per kg so that there may be a gain of 10% by selling the mixture at Rs. 9.24 per kg?

1)36

2)42

3)54

4)63

Solution:

S.P. of 1 kg of mixture = Rs. 9.24, Gain 10%.

C.P. of 1 kg of mixture = Rs. (100/110) x 9.24 = Rs. 8.40

By the rule of alligation, we have:

Ratio of quantities of 1st and 2nd kind = 14:6 = 7 : 3.

Let x kg of sugar of 1st be mixed with 27 kg of 2nd kind.

Then, 7 : 3 = x : 27

x = (7 x 27)/3 = 63 kg.