Changepond Technologies Aptitude Paper Questions

Q1. Mr. Ram is on tour and he has Rs 360 for his expenses. If he exceeds his tour by 4 days he must cut down daily expenses by Rs 3. The number of days of Mr. Rams tour programme is

A. 28 Days
B. 24 Days
C. 22 Days
D. 20 Days

ANS: D

Explanation:

Let Ram under takes a tour of x days.
Then, expenses for each day = 360/x.
=> 360/{x+4} = 360/x - 3
=> x= 20 and -24
Hence, x= 20 days.

Q2. In an A.P, the 12th term is 7 times the 2nd term and the 8th term is 3 more than 10 times the first term. What is the 5th term of the G.P whose first term is the first term of A.P and whose common ratio is equal to the common difference of the A.P.

A.162
B.144
C.156
D.136

ANS: A

Explanation:

Let the progression be a, a+d, a+2d .....
=> a+11d = 7a +7d

=> 6a = 4d
=> 3a =2d
Also, a+7d = 10a+3
=> 7d = 9a+3
=> 7d = 6d+3
=> d=3, a=2
The GP is 2, 2*3, 2*32, 2*33, 2*34
So the 5th term is 162

Q3. How many factors of 25 * 36 * 52 are perfect squares?

A.20
B.24
C.30
D.36

ANS: B

Explanation:

Any factor of this number should be of the form 2a * 3b * 5c.
For the factor to be a perfect square a, b, c have to be even.
a can take values 0, 2, 4. b can take values 0,2, 4, 6 and c can take values 0,2.
Total number of perfect squares = 3 * 4 * 2 =24

Q4. A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 12% more than the passing marks. Find the maximum marks.

A.50
B.100
C.150
D.200

ANS: B

Explanation:

From the given statement pass percentage is 42% - 12% = 30%
By hypothesis, 30% of x - 20% of x = 10 (marks)
i.e., 10% of x = 10
Therefore, x = 100 marks.

Q5. Three gold coins of weight 780gm, 840gm and 960gm are cut into small pieces, all of which have the equal weight. Each piece must be heavy as possible. If one such piece is shared by two persons, then how many persons are needed to give all the pieces of gold coins?

A.86
B.70
C.43
D.35

ANS: A

Explanation:

HCF(780, 840, 960) = 60
Thus total number of pieces
=> 780/60 + 840/60 +960/60 = 13+14+16 = 43
Total number of person required = 43*2 =86.

Q6. To complete a piece of work A and B take 8 days, B and C 12 days. A, B and C take 6 days. A and C will take :

A.7 Days
B.7.5 Days
C.8 Days
D.8.5 Days

ANS: C

Explanation:

Given (A+B)s one days work = 1/8
(B+C)s one days work =1/12
(A+B+C) s 1 days work =1/6
Work done by A, alone= (A+B+C) s 1 days work - (B+C)s one days work
=1/6 - 1/12 ={2-1}/12 =1/12
Work done by C, alone = (A+B+C) s 1 days work - (A+B)s one days work
=1/6 - 1/8 ={4-3}/24 =1/24
=> (A+C)s one days work = 1/12 + 1/24 = {2+1}/24 = 3/24 = 1/8
=> (A+C) will take 8 days to complete the work together

Q7. Two pipes can fill the cistern in 10hr and 12 hr respectively, while the third empty it in 20hr. If all pipes are opened simultaneously, then the cistern will be filled in

A.7.5 hr
B.8 hr
C.8.5 hr
D.10 hr

ANS: A

Explanation:

Work done by all the tanks working together in 1 hour.
=> 1/10 + 1/12 - 1/20 = 2/15
Hence, tank will be filled in 15/2 = 7.5 hour.

Q8. The total age of some 7 years old and some 5 years old children is 60 years. If I have to select a team from these children such that their total age is 48 years, In how many ways can it be done?

A.3

B.2
C.1
D.4

ANS: C

Explanation:

Let a children of 7 years and b children of 5 years be taken.
Then 7a+5b =48
This is possible only when a=4 and b=4
Hence only one combination is possible.

Q9. How many litres of water should be added to a 30 litre mixture of milk and water containing milk and water in the ratio of 7 : 3 such that the resultant mixture has 40% water in it?

A.7 litres
B.10 litres
C.5 litres
D.None of these

ANS: C

Explanation:

30 litres of the mixture has milk and water in the ratio 7 : 3. i.e. the solution has 21 litres of milk and 9 litres of water.
When you add more water, the amount of milk in the mixture remains constant at 21 litres. In the first case, before addition of further water, 21 litres of milk accounts for 70% by volume. After water is added, the new mixture contains 60% milk and 40% water.
Therefore, the 21 litres of milk accounts for 60% by volume.
Hence, 100% volume = 21/0.6= 35 litres.

We started with 30 litres and ended up with 35 litres. Therefore, 5 litres of water was added.

Q10. How many integers, greater than 999 but not greater than 4000, can be formed with the digits 0, 1, 2, 3 and 4, if repetition of digits is allowed?

A.499
B.500
C.375
D.376
E.501

ANS: D

Explanation:

The smallest number in the series is 1000, a 4-digit number.
The largest number in the series is 4000, the only 4-digit number to start with 4.
The left most digit (thousands place) of each of the 4 digit numbers other than 4000 can take one of the 3 values 1 or 2 or 3.
The next 3 digits (hundreds, tens and units place) can take any of the 5 values 0 or 1 or 2 or 3 or 4.
Hence, there are 3 * 5 * 5 * 5 or 375 numbers from 1000 to 3999.
Including 4000, there will be 376 such numbers