SANTA FANTA

Total number of question : 20
Test duration (min) : 40 min
Correct attempt (mark) : 1
Wrong attempt (mark) : -0.33

QUANTITATIVE APTITUDE

1. Jenny made a block with small cubes of 9 cubic cm volume. To make the block she used 4 small cubes long, 8 small cubes wide and 16 small cubes deep. She realizes that she has used more small cubes than she really needed. She realized that she could have glued a fewer number of cubes together to look like a block with same dimensions, if it were made hollow. What is the minimum number of cubes that she needs to take out so that the bigger cube is hollow?
a. 344 b. 512 c. 168 d. 342

Answer: C

Explanation:
The total volume (in terms of number of cubes) of the solid = 4*8*16= 512
The total volume (in terms of number of cubes) of the hollow = (4-2)*(8-2)*(16-2) = 168
i.e. 168 smaller cubes must be removed from the cube in order to make a hollow block.

2. John buys a cycle for 31 dollars and given a cheque of amount 35 dollars. Shop Keeper exchanged the cheque with his neighbour and gave change to John. After 2 days, it is known that cheque is bounced. Shop keeper paid the amount to his neighbour. The cost price of cycle is 19 dollars. What is the profit/loss for shop keeper?
a. 23 b. 35 c. 19 d. 31

Answer: A

Explanation:
CP of cycle = $19
SP of cycle = $31
Profit for the shopkeeper = $31 - $19 = $12
Again, shopkeeper gave $35 to neighbour.
Loss = $35
So, net loss = $35 - $12 = $23

3. If Tarun buys only pens costing Rs. 13 each or only pencils costing Rs. 5 each, he is left with Rs. 2 in each case. Which of the following cannot be the amount available with him?
a. 457 b. 782 c. 577 d. 1042

Answer: C

Explanation:
Given that: When the person buys either only pens, each costing Rs.13 OR he buys only pencils, each costing Rs.5, he will have remaining 2 rupees. (i.e. when the amount he has is divided by 13 or 5, the remainder is 2).
Looking at the options, the only number that does not satisfy the given condition is 577. (577 when divided by 13 do not give remainder 2).
OR
The number must be divisible by 13 or 5 exactly, leaving (minus) the remainder 2.
Only 575 is not divisible by 13 exactly.

4. Rahul buys an article at Rs.15850 from the retailer who sells it at a profit of 15 %. The retailer bought it from a wholesaler who sold it at a profit of 20 %. The manufacture sold it at a profit of 30 % to the wholesaler. Find the cost price of manufacturing the article (approximately)?
a. 8835 b. 15000
c. 12192 d. cannot be Determined

Answer: A

Explanation:
Going from options
Option 8835
If manufacturing cost is 8835,
Manufacturer to Wholesaler = 30/100 * 8835 = 2650.5
Total = 8835 + 2650.5 = 11485.5

Wholesaler to Retailer = 20/100 * 11485.5 = 2297.1
Total = 11485.5 + 2297.1 = 13782.6
Retailer to Rahul = 15/100 * 13782.6 = 2067.34
Total = 13782.6 + 2067.34 ~ 15850
Hence option 8835 will be the answer.

5. The points A (-5,4), B (-7,6) and C (5,2) are the co-ordinates of a right angled triangle. Which of the following angle is a right angle?
a. A b. B c. C d. cannot be Determined

Answer: A

Explanation:
Distance between any two points (x1,y1) and (x2,y2) is given by the formula [(x2 - x1)2 - (y2 - y1)2]1/2
Distance between A and B in the given question is (8)1/2
Similarly, Distance between B and C is (160)1/2
Distance between A and C is (104)1/2
For any right angled triangle, hypotenuse is the largest side. Thus for our triangle ABC, BC is the hypotenuse. So the angle opposite to hypotenuse is the right angle. So A is the right angle.

6. If 5 Neptunians can destroy 5 small plutos in 5 solar years. How long will 7 Neptunians take to destroy 7 small plutos (in solar years)?
a. 7 b. 5 c. 10 d. 12

Answer: B

Explanation:
Using chain Rule,
5*7*5=7*5*x
x=(5*7*5)/(7*5)=5.

7. A cuboid of length 4 cm, breadth 6 cm and height 8 cm is formed using unit cubes. All the faces of the cuboid are painted using different colours. Now the cubes are separated and the cubes with no face painted are used to form a new cuboid. Find the volume of the newly formed cuboid.
a.48 b.72 c.96 d.36

Answer: A

Explanation:
Cuboid is made of unit cubes
Find the volume of hollow cuboid = (4-2)*(6-2)*(8-2)
= 2*4*6
= 48

8. Cadbury manufactures a chocolate box which contains “x” number of chocolates. There are three houses A, B, C in the neighbourhood of Cadbury. Since it was a new variety of chocolate the marketing managers of Cadbury decided to free chocolates to the children in the neighbouring houses A,B,C. In house A there are 3 children and in B there are 5 children and in C there are 7 children. After distributing the chocolates he was left with one chocolate in each case.
a. 204 b. 211 c. 214 d. 217

Answer: B

Explanation:
From the question, it is clear that the particular number should leave the remainder 1 while dividing it by 3,5 and 7.
211/3=Q+1
211/5=Q+1
211/7=Q+1
Hence 211 will be the answer

9. The Tatas have decided to launch their new brand “Aria” in the SUV segment. Mr.Mehra decided to take a test drive before deciding on Aria. During the test drive he found that Aria could cover 500 m in 20 seconds. Aria is known for its uniform acceleration. Can you find out the acceleration?
a. 3.2 b. 2.5 c. 1.8 d. 2

Answer: B

Explanation:
As we know, Speed=Distance/Time
I.e. Speed=500/20=2.5

10. Find the maximum possible value of x-y+33 if x, y are any two single digit integers, not necessarily the same.
a. 41 b. 33 c.51 d. 43

Answer: C

Explanation:
x and y are 2 single digit integer to get the maximum value for equation
x-y+33
Since it is difference between x&y one number should be maximum and other should be minimum to get maximum value take x=9&y=1
9-1+33=41

11. Kailash faces towards North. Turning to his right, he walks 25 meters. He then turns to his left and walks 30 meters. Next, he moves 25 meters to his right. He then turns to his right again and walks 55 meters. Finally he turns to the right and moves 40 meters. In which direction is he now from his starting point?

a. South-West b. South
c. North-West d. South-East

Answer: D

Explanation:
Facing north turns towards right and walks 25km=east
Then turns towards left walks 30 m=north
Again he turns towards his right and walks 25m=north east
He moves towards his right and walks 55m=south
Finally he turns right and walks 40m=south east.

12. Find the value of (213 x 213 x 213 - 31 x 31 x 31)/(213 x 213 + 213 x 31 + 31 x 31)

a. 191 b. 182 c. 178 d. 210

Answer: B

Explanation:
Here, the numerator is in the form of a3-b3=(a-b) (a2+ab+b2) and the denominator is in the form of a2+ab+b2
a=213 & b=31
By cancelling the common terms in the numerator and the denominator we will get (a-b)
I.e.213-31= 182

13. Mr.Govind was a building contractor. He was doing reasonably well in his business but was always on an expansion mode. Mr.Govind won a contract with the Corporation and his business began to boom, so he decided to deploy more people in his projects. If he were to increase his labour force by 33.33%, what will be percentage reduction in the work load of each employee?

a. 75 b. 50 c. 25 d. 33.33

Answer: C

Explanation:
As we know if men increase the workload of each employee will decrease
i.e., men are inversely proportional to work load of an employee.
As we see in percentage concept, if there is 1/n increase, there will be 1/n+1 decrease
Here 33.33% increase which equals=1/3
There will be 1/4 decrease=25%

14. Vodafone has come up with a new scheme "Pay Easy". They have decided to charge the first 100 calls of a Pay Easy customer @Rs.1/-call, the next 100 calls @Rs.1.25/-call and the next 100 calls @Rs.1.75/-call. Raj is a Pay Easy customer. He paid Rs.286.25/- as his mobile bill that month. How many calls did Raj make?

a. 243 b. 241 c. 242 d. 235

Answer: D

Explanation: When you go through the option all the options are above 200
Total cost paid=Rs.286.25
For 1st 100 calls=Rs.100
2nd 100 calls=Rs.125
Still he has to pay Rs.61.25
For third 100 call=Rs.1.75
No of calls=61.25/1.75=35
Total number of calls =100+100+35=235 calls

15. Arun was all bent on building a new house. He carefully got the blue print of his house designed by his friend Ashwin, a civil engineer. He wanted to build a room of dimension 27 by 48 ft and lay tiles in this room. Each tile was of dimension 2 by 3 ft. How many such tiles should Arun buy?

a. 184 b. 224 c. 318 d. 216

Answer: D

Explanation:
27*48/2*3=216

ADVANCED QUANTITATIVE APTITUDE

16. An intelligence agency forms a code of two distinct digits selected from 0, 1, 2… 9 such that the first digit of the code is nonzero. The code, handwritten on a slip, can however potentially create confusion, when read upside down-for example, the code 91 may appear as 16. How many codes are there for which no such confusion can arise?

a. 80 b. 78 c. 71 d. 69

Answer: C

Explanation:
The available digits are 0, 1, 2,...., 9.
The first digit can be chosen in 9 ways (0 not acceptable), the second digit can be accepted in 9 ways (digits repetition not allowed).

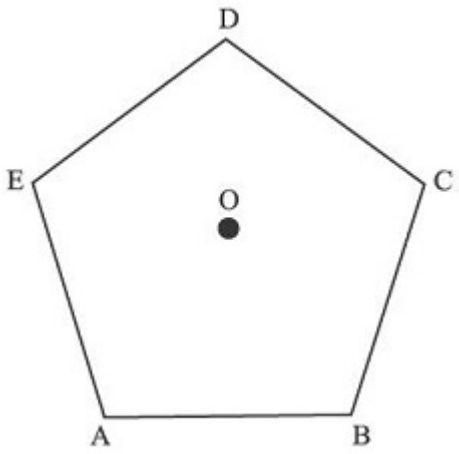
Thus, the code can be made in 9 × 9 = 81 ways.
Now there are only 4 digits 1, 6, 8, 9 which can create confusion.
Hence, the total number of codes which create confusion are = 4 × 3 = 12.
Out of these 12 codes 69 and 96 will not create confusion.
Hence, in total 12 – 2 = 10 codes will create confusion.
Hence, the total codes without confusion are 81 – 10 = 71.

17. Let N = 553 + 173 – 723. N is divisible by:
a. both 7 and 13 b. both 3 and 13
c. both 17 and 7 d. both 3 and 17

Answer: D

Explanation:
We have N = 55^3 + 17^3 – 72^3 = (54 + 1)^3 + (18 – 1^)3 – 72^3
When N is divided by 3, we get remainders (1)^3 + (-1)^3 – 0 = 0
Hence, the number N is divisible by 3.
Again N = (51 + 4)^3 + 17^3 – (68 + 4)^3
When N is divided by 17, the remainder is (4)^3 + 0 – (4)^3 = 0
Hence, the number is divisible by 17.
Hence, the number is divisible by both 3 and 17.

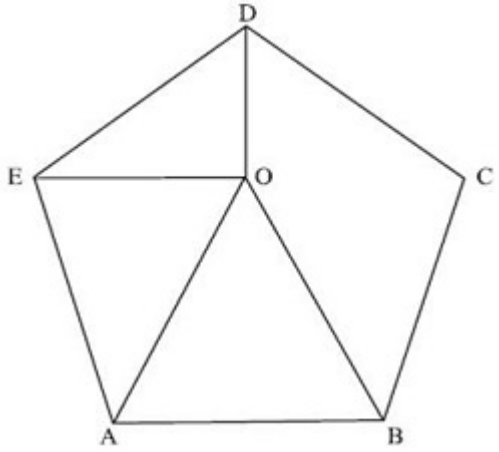
18. ABCDE is a regular pentagon. O is a point inside the pentagon such that AOB is an equilateral triangle. What is ∠OEA?



a. 66° b. 48° c. 54° d. 72°

Answer: A

Explanation:
Join OE and OD.
Internal angle of regular pentagon = 108°
∠EAB = ∠EDC = 108°
∠OAB = 60°
∠EAO = 48°
AO = OB = AB as the triangle is equilateral.
AB = AE as this is a regular pentagon.
Triangle AEO is isosceles as AO = EA.
∠AEO = ∠AOE = x (say)
In triangle AEO,
∠OAE + 2x = 180°
48° + 2x = 180°
2x = 132°, or x = 66°



19. If there are 30 cans out of them one is poisoned. If a person tastes very little of this he will die within 14 hours so they decided to test it with mice. Given that a mouse dies in 24 hours and you have 24 hours in all to find out the poisoned can, how many mice are required to find the poisoned can?
a. 29 b. 15 c. 6 d. 5

Answer: D

Explanation:
The mice will die within 24 hours not exactly on the 24th hour.
For example, if there are 7 cans,
1st Can's solution is given to mice A.
2nd Can's solution is given to mice B.
3rd Can's solution is given to mice C.
4th Can's solution is given to A and B.
5th Can's solution is given to B and C.
6th Can's solution is given to C and A.
7th Can's solution is given to A, B and C.
Then within 24 hours if A alone dies, Can 1 is poisoned.
If B alone dies, Can 2 is poisoned.
If C alone dies, Can 3 is poisoned.
A and B dies if Can 4 is poisoned, B and C dies if Can 5 is poisoned, C and A dies if Can 6 is poisoned & if all A, B, C dies then Can 7 is poisoned.

From this we can tell that to check 23-1 = 7 Cans we need 3 mouse.
Therefore we can tell that in order to check 30 Cans (25-1 = 31 maximum) we need 5 mouse.

20. If a person makes a row of toys of 20 each, there would be 15 toys left. If they made to stand in rows of 25 each, there would be 20 toys left, if they made to stand in rows of 38 each, there would be 33 toys left and if they are made to stand in rows of 40 each, there would be 35 toys left. What is the minimum number of toys the person have?
a.1255 b.3805 c.7595 d.3795

Answer: D

Explanation:
Required number of toys =LCM (20, 25, 28, 38 and 40)–5
⇒ 3,800−5=3,800−5= 3,795.