Deloitte Aptitude

1. A trader marks the price at 8 percent higher than the original price. Due to the hike in demand, he again increases the price by 10 percent. How much percent profit he gets.

A. 17.8%
B. 18.8%
C. 19.8%
D. 20.8%

Answer – B.18.8%
Explanation:
Suppose initial price = 100
Then final price = 100*(108/100)*(110/100) = 118.8
Therefore, Profit Percentage = 18.8%

2. After decreasing 24% in the price of an article costs Rs.912. Find the actual cost of an article?

A. 1400
B. 1300
C. 1200
D. 1100

Answer - C. 1200
Explanation:
CP* (76/100) = 912
CP= 12 * 100
Hence, the Cost Price is 1200

3. M and N's salaries together amount to Rs. 2,000. M spends 95% of his salary and N spends 85% of his. If now their savings are the same, what is N's salary?

A. Rs.500
B. Rs.750
C. Rs.1250
D. Rs.1500

Answer - D. Rs.1500
Explanation:
According to the given information
(5/100) M = (15/100) N

M = 3N
M + N = 2000
4N = 2000 => N = 500
M = 3(500) = 1500.

4. If the price of an article is increased by 15%, then by how much the household should decrease their consumption so as to keep his expenditure same.

A. 11(1/23)%
B. 11(2/23)%
C. 13(1/23) %
D. 13(2/23)%

Answer – C. 13(1/23) %
Explanation:
By Analyzing the given information
Decrease in expenditure = (15/115)*100 = 13(1/23) %

5. In a horse racing, there are three horses, P, Q, and R. The Payoffs at P is 3: 7, at Q, is 4: 9, at R, is 5: 11. Salman bets Rs. 693 on a horse which would fetch the maximum amount. Luckily his horse has won. Then what is the total amount won by him?

A. Rs.990
B. Rs.1001
C. Rs.1008
D. Rs.1011

Answer – C. Rs.1008
Explanation:
If Salman bets on horse P: 693*3/7 = 297
If he bets on horse Q: 693*4/9 = 308
If he bets on horse R: 693*5/11 = 315
Hence, Salman bets on horse R and he wins 315
Total = 693+315 = 1008

6. Two pipes P and Q can fill a tank in 10 hours and 15 hours respectively while a third pipe R can empty the full tank in 20 hours. All the pipes are opened for 5 hours and then R is closed. Find the time in which the tank is full?

A. 5.5 hrs
B. 6.5 hrs

Deloitte Aptitude

C. 7.5 hrs
D. 8.5 hrs

Answer – C. 7.5 hrs
Explanation:
(1/10 + 1/15 – 1/20)*5 + (1/10 + 1/15)*T = 1.
We will get Time = 2.5 hrs
Therefore, the total time = 5 + 2.5 = 7.5 hrs

7. **Two pipes M and N can fill a tank in 8 minutes and 12 minutes respectively. If both the pipes are opened simultaneously, after what time should N be closed so that the tank is full in 6 minutes?**

A. 1 min
B. 2 min
C. 3 min
D. 4 min

Answer – C. 3 min
Explanation:
Let us assume that after x minutes pipe N is closed
(1/8 + 1/12)*x + (1/8)*(6 -x) = 1
Therefore, x = 3 minutes

8. **Two taps can separately fill the tank in 10 min and 15 min respectively. They fill the tank in 12 minutes when a third pipe which empties the tank is also opened. What is the time taken by the third pipe to empty the whole tank?**
A. 12 minutes
B. 14 minutes
C. 15 minutes
D. 20 minutes

Answer - A. 12 minutes
Explanation:
1/10 + 1/15 – 1/x = 1/12
After solving the above equation we will get x = 12

9. **Three pipes, P, Q, and R are opened to fill a tank such that P and Q can fill a tank alone in 36 min. and 45 min. respectively and R can empty it in 30 min. After 6 minutes the emptying pipe is closed. In how many minutes the tank will be full in this way?**

A. 18 mins
B. 20 mins
C. 24 mins
D. 25 mins

Answer - C. 24 mins
Explanation:
Let us assume the tank full in x minutes
Then P and Q opened for x minutes and R for 6 minutes.
(1/36 + 1/45)*x – (1/30)*6 = 1
(1/20)*x = 6/5
By solving x = 24
Therefore, the tank will be full in 24 mins

10. **Pipes M and N can fill a cistern in 15 hours together. But if these pipes operate separately M takes 40 hours less than N to fill the tank. In how many hours the pipe M will fill the cistern working alone?**

A. 15 hours
B. 20 hours
C. 40 hours
D. 60 hours

Answer - B. 20 hours
Explanation:
Let M takes x hours
Then, N = (x+40) hours
1/x + 1/(x+40) = 1/15
Therefore, x = 20
Hence the pipe M will fill the cistern in 20 hours

11. **Dr. Gopal walks at 4/5 of his normal speed and takes 60 mins more than the usual time. What will be the new time taken by Dr. Gopal?**

A. 220 mins
B. 235 mins
C. 260 mins
D. 300 mins

Answer – D. 300 mins

Explanation:
According to the given information
4/5 of speed = 5/4 of the original time
5/4 of original time = original time + 60 mins
1/4 of original time = 60 mins
Hence, original time = 60*4 = 240 mins = 240 + 60 = 300 mins

12. **A Lion starts chasing a Deer. It takes 4 hours to catch the Deer. If the speed of the Lion is 40 kmph. What is the speed of Deer?**

A. 20 kmph
B. 50 kmph
C. 40 kmph
D. 70 kmph

Answer – A. 20 kmph
Explanation:
Let us assume that
Deer Speed = x kmph
Then, 4 = 4*x/(40-x)
x = 20 kmph

13. **Two Trains of the same length are running in the same direction with speed 50 kmph and 80 kmph. The latter completely cross the man in 18sec. The length of each Train is**

A. 70 m
B. 75 m
C. 80 m
D. 150 m

Answer – B. 75 m
Explanation:
80 – 50 = 30
30×(5/18) = 25/3 m/s
Distance covered in 20 sec = 18 ×(25/3) = 150
Therefore, Length of each Train = 150/2 = 75 m

14. **A man can reach a certain place in 30 hrs. If he reduces his speed by 1/10th, he goes 9 km less in that time. Find his speed?**

A. 1 kmph
B. 3 kmph
C. 7 kmph
D. 8 kmph

Answer - B. 3 kmph
Explanation:
Let x be the speed
30x – (30*9/10)x = 9
30x – 27x = 9
3x = 9
x= 3 kmph
Therefore, the speed of the man is 3 kmph.

15. **A thief is noticed by a policeman from a distance of 200 m. The thief starts running and the policeman chases him. The thief and the policeman run at the rate of 10 km and 11 km per hour respectively. What is the distance between them after 6 minutes?**

A.100 m
B.150 m
C.190 m
D.200 m

Answer - A. 100 m
Explanation:
Given that, Relative speed of the thief and policeman = (11 – 10) km/hr = 1 km/hr
Distance covered in 6 minutes = ((1/60)*6) km = (1/10) km = 100 m.
Therefore, Distance between the thief and policeman after 6 minutes = (200 – 100) m = 100 m

16. **The Compound Interest on Rs.7000 for 3 years at 5% for the first year, 7% for the second year, 10% for the third year will be**

A. Rs.1800
B. Rs.1530
C. Rs.1651
D. Rs.2050

Answer – C. Rs.1651
Explanation:
A = 7000* 105/100* 107/100* 110/100

= 7000*1.05*1.07*1.1
= 8650.95 = 8651
Therefore, Compound Interest = 8651-7000 = 1651

17. Ajay invested an amount of Rs.9000 in a fixed deposit scheme for 2 years at CI rate 6% Per Annum. How much amount will Ajay get on maturity of the fixed amount?

A. Rs. 11, 230
B. Rs. 10, 250
C. Rs. 10, 112
D. Rs. 10, 400

Answer – C.Rs.10, 112
Explanation:
Amount = 9000*106/100*106/100
= 9000*53/50*53/50
= 10, 112
Therefore, Ajay will get on maturity of a fixed amount is Rs. 10, 112

18. The side of a square-shaped garden is 8√2. Find the maximum possible distance between any two corners

A. 14 m
B. 15 m
C. 16 m
D. 17 m

Answer – C. 16 m
Explanation:
d = a√2
a = 8√2
d = 16 m

19. If the side of the square is increased by 30%, then how much % does its area get increased?

A. 49%
B. 69%
C. 79%
D. 89%

Deloitte Aptitude

Answer – B. 69%
Explanation:
Area of the plot is = 1.3 * 1.3 = 1.69 = 69%

20. **The radius of the wheel of a car is 70 cm. How many revolutions per minute the wheel will make in order to keep a speed of 66 km/hr?**

A. 234
B. 272
C. 300
D. 250

Answer - D. 250
Explanation:
Distance to be covered in 1 min = 66*(1000/60) = 1100 m
70 cm = 0.70 m
Circumference of wheel = 2*(22/7)*0.70 = 4.4 m
Number of Revolutions = (1100/4.4) = 250

21. **The ratio of length to breadth of a rectangle is 7:6. The perimeter of the plot is 260m. Find the area of the plot?**

A. 4800 sq.m
B. 5600 sq.m
C. 4200 sq.m
D. 2600 sq.m

Answer - C. 4200 sq.m
Explanation:
2(7x+6x) = 260
26x = 260
x = 260/26 = 10
Hence the Area of the plot = 70*60 = 4200.

22. **Ramesh walked 6 km to reach the station from his house, then he boarded a train whose average speed was 60 kmph and thus he reached his destination. In this way, he took a total time of 3 hours. If the average speed of the entire journey was 32 kmph then the average speed of walking is**

A. 2 kmph
B. 4 kmph

C. 6 kmph
D. 8 kmph

Answer – B. 4 kmph
Explanation:
Total Distance = 32 * 3 = 6 + 60 * x
x = 1.5 hour
Therefore, Walking Speed = 6/1.5 = 4 kmph

23. **A grocer has a sale of Rs. 6435, Rs. 6927, Rs. 6855, Rs. 7230 and Rs. 6562 for 5 consecutive months. How much sale must he have in the sixth month so that he gets an average sale of Rs 6500?**

A. Rs. 4991
B. Rs. 5991
C. Rs. 6001
D. Rs. 6991

Answer - A. Rs. 4991
Explanation:
Total sale for 5 months = Rs. (6435 + 6927 + 6855 + 7230 + 6562) = Rs. 34009.
Required sale = Rs. [(6500 x 6) - 34009]
= Rs. (39000 - 34009)
= Rs. 4991.

24. **The average weight of 8 person's increases by 2.5 kg when a new person comes in place of one of them weighing 65 kg. What might be the weight of the new person?**

A. 76 kg
B. 76.5 kg
C. 85 kg
D. 87 kg

Answer - C. 85 kg
Explanation:
Total weight increased = (8 x 2.5) kg = 20 kg.
Hence, Weight of new person = (65 + 20) kg = 85 kg.

25. **A rectangle whose sides are in the ratio 6: 5 is formed by bending a circular wire of radius 21 cm. Find the difference between the length and breadth of the rectangle?**

A. 6 cm
B. 8 cm
C. 10 cm
D. 12 cm

Answer – A. 6 cm
Explanation:
Circumference of the wire = 2*(22/7)*21 = 22*6
Perimeter of rectangle = 2*11x = 22*6, so x= 6
Therefore, Difference = 36 -30 = 6 cm