

## Capgemini Aptitude Questions and Answers with Explanation

1. A shopkeeper gains 15% after allowing a discount of 20% on the market price of an article. Find his profit %, if the articles are sold at a market price allowing no discount?

- A. 43.76%
- B. 45%
- C. 50%
- D. 53.75%

**Answer – A. 43.76%**

**Explanation:**

Market price = Rs.100

SP = Rs.80, Discount = 20

Gain = 15%

CP =  $80 \times 100 / 115 = 69.56$

Profit % =  $[100 - 69.56 / 69.56] \times 100$

=  $30.44 \times 100 / 69.56$

= 43.76%

2. Cost price of 80 notebooks is equal to the selling price of 65 notebooks. The gain or loss % is

- A. 23%
- B. 32%
- C. 42%
- D. 27%

**Answer – A. 23%**

**Explanation:**

% =  $[80 - 65 / 65] \times 100$

=  $15 \times 100 / 65 = 1500 / 65$

= 23.07 = 23% profit

Finally, the gain is 23%

3. Articles are marked at a price which gives a profit of 22%. After allowing a certain discount the profit reduced to half of the previous profit, then the discount % is

- A. 7%
- B. 10%
- C. 12%
- D. 9%

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**Answer – D. 9%**

**Explanation:**

Cost Price (CP) = 100

Market Price (MP) = 122

Selling Price (SP) = 111

% of Discount (D)  $\Rightarrow 122 \times (100-x)/100 = 111$

$122 \times (100-x) = 11100$

$12200 - 122x = 11100$

$12200 - 11100 = 122x$

$x = 1100/122 = 9.02 = 9\%$

Therefore, the discount is 9%

4. Ramesh lends Rs 50,000 of two of his friends. He gives Rs 30,000 to the first at 6% p.a. simple interest. He wants to make a profit of 10% on the whole. The simple interest rate at which he should lend the remaining sum of money to the second friend is

A. 11%

B. 17%

C. 8%

D. 16%

**Answer – D. 16%**

**Explanation:**

S.I. on Rs 30000

$= (30000 \times 6 \times 1)/100 = \text{Rs. } 1800$

Profit to made on Rs 50000

$= 50000 \times 10/100 = \text{Rs } 5000$

S.I. on Rs. 20000 =  $5000 - 1800 = \text{Rs. } 3200$

Rate =  $(\text{S.I.} \times 100)/(P \times T) = (3200 \times 100)/20000$

$= 16\%$  per annum

5. Vishal borrowed some money for one year at 8% per annum simple interest and after 18 months, he again borrowed the same money at a Simple Interest of 32% per annum. In both cases, he paid Rs.5452. Which of the following could be the amount that was borrowed by Hussain in each case if interest is paid half-yearly?

A. 4500

B. 4700

C. 3900

D. 4200

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**Answer – B. 4700**

**Explanation:**

16% for 6 months

x = Borrowed money

Take x = 100%

116% of x = 5452

x = 4700

6. Rakesh lent out a part of Rs. 38800 is lent out at 6% per six months. The rest of the amount is lent out at 5% per annum after one year. The ratio of interest after 3 years from the time when the first amount was lent is 5:4. Find the second part that was lent out at 5%.

A. 28500

B. 28800

C. 30080

D. 20500

**Answer - B. 28800**

**Explanation:**

First Part = x

$$[x * (0.06) * 6] / (38800 - x) * 0.05 * 2 = 5/4$$

$$1.44x = 19400 - 0.5x$$

$$x = 10000$$

$$\text{Second Part} = 38800 - 10000 = 28800$$

Hence the second part that was lent out at 5% = 28800

7. The cost of the Coal block varies directly with the square of its weight. The Coal block is divided into three parts whose weights are in the ratio of 5:6:7. If the Coal block is divided into three equal parts by weight then there would be further loss of Rs.7200. Then what is the actual cost of Coal Block?

A. 2332880

B. 3888000

C. 3960000

D. 1166400

**Answer – D. 1166400**

**Explanation:**

$$\text{Cost} = (5x)^2 + (6x)^2 + (7x)^2 = 110x^2$$

$$\text{When weights equal} = (6x)^2 + (6x)^2 + (6x)^2 = 108x^2$$

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$$\text{Loss} = 7200 = 110 \times 2 - 108 \times 2 = 2 \times 2$$

$$x = 60$$

$$\text{Actual cost} = (6x + 6x + 6x) \times 2$$

$$(18 \times 60) \times 2 = 1166400$$

Therefore, the actual cost of Coal Block is 1166440.

8. There are 459 students in a hostel. If the number of students increased by 36, the expenses of the mess increased by Rs .81 Per day while the average expenditure per head reduced by 1. Find the original expenditure of the mess?

A. 7304

B. 7314

C. 7334

D. 7344

**Answer – D. 7344**

**Explanation:**

$$\text{Total expenditure} = 459x$$

$$36 \text{ students joined then total expenditure} = 459x + 81$$

$$\text{average} = 459x + 81 / 495 = x - 1$$

$$x = 16$$

$$\text{original expenditure} = 16 \times 459 = 7344$$

Hence the original expenditure of the mess is 7344.

9. The average weight of 40 Students is 32. If the Heaviest and Lightest are excluded the average weight reduces by 1. If only the Heaviest is excluded then the average is 31. Then what is the weight of the Lightest?

A. 30

B. 31

C. 32

D. 33

**Answer – 2. 31**

**Explanation:**

$$40 \times 32 = 1280$$

$$1280 - H / 39 = 31$$

$$H = 71$$

$$1280 - 71 - L / 38 = 31$$

$$L = 31$$

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10. M and N invested rupees 4000 and 5000 respectively in a business. M being an active partner will get rupee 50 every month extra for running the business. In a year if M receive a total of 800 rupees, then what will N get from the business.

- A. 200
- B. 300
- C. 400
- D. 250

**Answer – D. 250**

**Explanation:**

The ratio in which the profit will divide – 4:5.

M will get  $50 \times 12 = 600$  rupees extra, so from business M got 200 rupees.

i.e  $(4/9) \times P = 200$ ,  $P = 450$ . So N will get  $450 - 200 = 250$  rupees

11. A Jar contains 30 liters mixture of Milk and Water in the ratio of x:y respectively. When 10 liters of the mixture is taken out and replaced it water, then the ratio becomes 2:3. Then what is the initial quantity of Milk in the Jar?

- A. 18 Liter
- B. 20 Liter
- C. 12 Liter
- D. 15 Liter

**Answer – A. 18 Liter**

**Explanation:**

$$x+y=30$$

$$(x-10 \cdot x/(x+y)) / (y-10 \cdot y/(x+y) + 10) = 2/3$$

$$2x-4/3y = 20$$

$$x = 18$$

12. A Jar contains 100 liters of Milk a thief stole 10 liters of Milk and replaced it with water. Next, he stole 20 liters of Milk and replaced it with water. Again he stole 25 liters of Milk and replaced with water. Then what is the quantity of water in the final mixture?

- A. 55 Liter
- B. 54 Liter
- C. 50 Liter
- D. 46 Liter

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**Answer – D. 46 Liter**

**Explanation:**

According to the given data

$$\text{Milk} = 100 \times 90 / 100 \times 80 / 100 \times 75 / 100 = 54$$

$$\text{Water} = 100 - 54 = 46$$

13. A Container contains 'X' Liters of Milk. A thief stole 50 Liters of Milk and replaced it with the same quantity of water. He repeated the same process further two times. And thus Milk in the container is only 'X-122' liters. Then what is the quantity of water in the final mixture?

- A. 124 Liter
- B. 128 Liter
- C. 250 Liter
- D. 122 Liter

**Answer – D. 122 Liter**

**Explanation:**

$$X - 122 = X(1 - 50/X)^3$$

$$X = 250 \text{ Liter}$$

$$\text{Milk} = 250 - 122 = 128$$

$$\text{Water} = 122$$

14. The perimeter of a square is equal to twice the perimeter of a rectangle of length 10 cm and breadth 4 cm. What is the circumference of a semi-circle whose diameter is equal to the side of the square?

- A. 46 cm
- B. 36 cm
- C. 38 cm
- D. 23 cm

**Answer – B. 36 cm**

**Explanation:**

$$\text{However, Perimeter of square} = 2(l + b)$$

$$= 2 \times 2(10 + 4) = 2 \times 28 = 56 \text{ cm}$$

$$\text{Side of square} = 56/4 = 14 \text{ cm}$$

$$\text{Radius of semi-circle} = 14/2 = 7 \text{ cm}$$

$$\text{Circumference of the semi-circle} = 22/7 \times 7 + 14 = 36 \text{ cm}$$

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15. The length of a rectangle is  $\frac{3}{5}$ th of the side of a square. The radius of a circle is equal to the side of the square. The circumference of the circle is 132 cm. What is the area of the rectangle, if the breadth of the rectangle is 15 cm?

- A. 112 cm<sup>2</sup>
- B. 149 cm<sup>2</sup>
- C. 189 cm<sup>2</sup>
- D. 199 cm<sup>2</sup>

**Answer – C. 189 cm<sup>2</sup>**

**Explanation:**

The circumference of the circle = 132

$2\pi R = 132$ ;  $R = 21$  cm

Side of square = 21 cm

Length of the rectangle =  $\frac{3}{5} \times 21 = \frac{63}{5}$

Area of the rectangle =  $\frac{63}{5} \times 15 = 189$  cm<sup>2</sup>

16. Smallest side of a right-angled triangle is 13 cm less than the side of a square of perimeter 72 cm. Second largest side of the right-angled triangle is 2 cm less than the length of the rectangle of area 112 cm<sup>2</sup> and breadth 8 cm. What is the largest side of the right-angled triangle?

- A. 20 cm
- B. 12 cm
- C. 10 cm
- D. 13 cm

**Answer – D. 13 cm**

**Explanation:**

Side of square =  $72/4 = 18$  cm

Smallest side of the right angled triangle =  $18 - 13 = 5$  cm

Length of rectangle =  $112/8 = 14$  cm

Second side of the right angled triangle =  $14 - 2 = 12$  cm

Hypotenuse of the right angled triangle =  $\sqrt{(25 + 144)} = 13$  cm