

1. Alfred buys an old scooter for Rs. 4700 and spends Rs. 800 on its repairs. If he sells the scooter for Rs. 5800, his gain percent is:

- A. $4\frac{4}{7}\%$
- B. $5\frac{5}{11}\%$
- C. 10%
- D. 12%

Answer: Option B

Explanation:

Cost Price (C.P.) = Rs. (4700 + 800) = Rs. 5500.

Selling Price (S.P.) = Rs. 5800.

Gain = (S.P.) - (C.P.) = Rs.(5800 - 5500) = Rs. 300.

$$\text{Gain \%} = \left(\frac{300}{5500} \times 100\right)\% = 5\frac{5}{11}\%$$

2. The cost price of 20 articles is the same as the selling price of x articles. If the profit is 25%, then the value of x is:

- A. 15
- B. 16
- C. 18
- D. 25

Answer: Option B

Explanation:

Let C.P. of each article be Re. 1 C.P. of x articles = Rs. x .

S.P. of x articles = Rs. 20.

Profit = Rs. (20 - x).

$$\therefore \left(\frac{20 - x}{x} \times 100 = 25 \right)$$

$$\Rightarrow 2000 - 100x = 25x$$

$$125x = 2000$$

$$\Rightarrow x = 16.$$

3. If selling price is doubled, the profit triples. Find the profit percent.

- A. $66\frac{2}{3}\%$
- B. 100
- C. $105\frac{1}{3}\%$
- D. 120

Answer: Option B

Explanation:

Let C.P. be Rs. x and S.P. be Rs. y .

Then, $3(y - x) = (2y - x) \Rightarrow y = 2x$.
Profit = Rs. $(y - x) = \text{Rs. } (2x - x) = \text{Rs. } x$.
Gain % = $\left(\frac{x}{x} \times 100\right)\% = 100\%$

4. In a certain store, the profit is 320% of the cost. If the cost increases by 25% but the selling price remains constant, approximately what percentage of the selling price is the profit?
- A. 30%
 - B. 70%
 - C. 100%
 - D. 250%

Answer: Option B

Explanation:

Let C.P. = Rs. 100. Then, Profit = Rs. 320, S.P. = Rs. 420.

New C.P. = 125% of Rs. 100 = Rs. 125

New S.P. = Rs. 420.

Profit = Rs. $(420 - 125) = \text{Rs. } 295$.

$$\therefore \text{Required percentage} = \left(\frac{295}{420} \times 100\right)\% = \frac{1475}{21}\% = 70\% \text{ (approximately).}$$

5. A vendor bought toffees at 6 for a rupee. How many for a rupee must he sell to gain 20%?
- A. 3
 - B. 4
 - C. 5
 - D. 6

Answer: Option C

Explanation:

C.P. of 6 toffees = Re. 1

S.P. of 6 toffees = 120% of Re. 1 = Rs. $\frac{6}{5}$

For Rs. $\frac{6}{5}$, toffees sold = 6.

For Re. 1, toffees sold = $\left(6 \times \frac{5}{6}\right) = 5$.

6. The percentage profit earned by selling an article for Rs. 1920 is equal to the percentage loss incurred by selling the same article for Rs. 1280. At what price should the article be sold to make 25% profit?
- A. Rs. 2000
 - B. Rs. 2200
 - C. Rs. 2400

D. Data inadequate

Answer: Option A

Explanation:

Let C.P. be Rs. x .

$$\text{Then, } \frac{1920 - x}{x} \times 100 = \frac{x - 1280}{x} \times 100$$

$$\Rightarrow 1920 - x = x - 1280$$

$$\Rightarrow 2x = 3200$$

$$\Rightarrow x = 1600$$

$$\therefore \text{ Required S.P.} = 125\% \text{ of Rs. } 1600 = \text{Rs. } \left(\frac{125}{100} \times 1600 \right) = \text{Rs } 2000.$$

7. A shopkeeper expects a gain of 22.5% on his cost price. If in a week, his sale was of Rs. 392, what was his profit?

A. Rs. 18.20

B. Rs. 70

C. Rs. 72

D. Rs. 88.25

Answer: Option C

Explanation:

$$\text{C.P.} = \text{Rs. } \left(\frac{100}{122.5} \times 392 \right) = \text{Rs. } \left(\frac{1000}{1225} \times 392 \right) = \text{Rs. } 320$$

$$\therefore \text{ Profit} = \text{Rs. } (392 - 320) = \text{Rs. } 72.$$

8. A man buys a cycle for Rs. 1400 and sells it at a loss of 15%. What is the selling price of the cycle?

A. Rs. 1090

B. Rs. 1160

C. Rs. 1190

D. Rs. 1202

Answer: Option C

Explanation:

$$\text{S.P.} = 85\% \text{ of Rs. } 1400 = \text{Rs. } \left(\frac{85}{100} \times 1400 \right) = \text{Rs. } 1190$$

9. Sam purchased 20 dozens of toys at the rate of Rs. 375 per dozen. He sold each one of them at the rate of Rs. 33. What was his percentage profit?

A. 3.5

B. 4.5

C. 5.6

D. 6.5

Answer: Option C

Explanation:

Cost Price of 1 toy = Rs. $\left(\frac{375}{12}\right)$ = Rs. 31.25

Selling Price of 1 toy = Rs. 33

So, Gain = Rs. (33 - 31.25) = Rs. 1.75

\therefore Profit % = $\left(\frac{1.75}{31.25} \times 100\right)\%$ = $\frac{28}{5}\%$ = 5.6%

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

A. 30%

B. $33\frac{1}{3}\%$

C. 35%

D. 44%

Answer: Option D

Explanation:

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

C.P. of 30 articles = Rs. $\left(\frac{5}{6} \times 30\right)$ = Rs. 25.

S.P. of 30 articles = Rs. $\left(\frac{6}{5} \times 30\right)$ = Rs. 36.

\therefore Gain % = $\left(\frac{11}{25} \times 100\right)\%$ = 44%.

11. On selling 17 balls at Rs. 720, there is a loss equal to the cost price of 5 balls. The cost price of a ball is:

A. Rs. 45

B. Rs. 50

C. Rs. 55

D. Rs. 60

Answer: Option D

Explanation:

(C.P. of 17 balls) - (S.P. of 17 balls) = (C.P. of 5 balls)

\Rightarrow C.P. of 12 balls = S.P. of 17 balls = Rs.720.

\Rightarrow C.P. of 1 ball = Rs. $\left(\frac{720}{12}\right)$ = Rs. 60.

12. When a plot is sold for Rs. 18,700, the owner loses 15%. At what price must that plot be sold in order to gain 15%?

- A. Rs. 21,000
- B. Rs. 22,500
- C. Rs. 25,300
- D. Rs. 25,800

Answer: Option C

Explanation:

$$85 : 18700 = 115 : x$$
$$\Rightarrow x = \left(\frac{18700 \times 115}{85} \right) = 25300.$$

Hence, S.P. = Rs. 25,300.

13. 100 oranges are bought at the rate of Rs. 350 and sold at the rate of Rs. 48 per dozen. The percentage of profit or loss is:

- A. $14\frac{2}{7}\%$ gain
- B. 15% gain
- C. $14\frac{2}{7}\%$ loss
- D. 15 % loss

Answer: Option A

Explanation:

$$\text{C.P. of 1 orange} = \text{Rs.} \left(\frac{350}{100} \right) = \text{Rs. } 3.50$$

$$\text{S.P. of 1 orange} = \text{Rs.} \left(\frac{48}{12} \right) = \text{Rs. } 4$$

$$\therefore \text{Gain\%} = \left(\frac{0.5}{3.5} \times 100 \right) \% = \frac{100}{7} \% = 14\frac{2}{7}\%$$

14. A shopkeeper sells one transistor for Rs. 840 at a gain of 20% and another for Rs. 960 at a loss of 4%. His total gain or loss percent is:

- A. $5\frac{15}{17}\%$ loss
- B. $5\frac{15}{17}\%$ gain
- C. $6\frac{2}{3}\%$ gain
- D. None of these

Answer: Option B

Explanation:

$$\text{C.P. of 1st transistor} = \text{Rs.} \left(\frac{100}{120} \times 840 \right) = \text{Rs. } 700.$$

$$\text{C.P. of 2}^{\text{nd}} \text{ transistor} = \text{Rs.} \left(\frac{120}{96} \times 960 \right) = \text{Rs.} 1000$$

So, total C.P. = Rs. (700 + 1000) = Rs. 1700.

Total S.P. = Rs. (840 + 960) = Rs. 1800.

$$\therefore \text{Gain \%} = \left(\frac{0.5}{3.5} \times 100 \right) \% = 5\frac{15}{17}\%$$

15. A trader mixes 26 kg of rice at Rs. 20 per kg with 30 kg of rice of other variety at Rs. 36 per kg and sells the mixture at Rs. 30 per kg. His profit percent is:

- A. No profit, no loss
- B. 5%
- C. 8%
- D. 10%

Answer: Option B

Explanation:

C.P. of 56 kg rice = Rs. (26 × 20 + 30 × 36) = Rs. (520 + 1080) = Rs. 1600.

S.P. of 56 kg rice = Rs. (56 × 30) = Rs. 1680.

$$\text{Gain \%} = \left(\frac{80}{1600} \times 100 \right) \% = 5\%$$

Data Sufficiency Questions

1. A shopkeeper sells some articles at the profit of 25% on the original price. What is the exact amount of profit? To find the answer, which of the following information given in Statements I and II is/are necessary?

I. Sale price of the article

II. Number of articles sold

- A. Only I is necessary
- B. Only II is necessary
- C. Either I or II is necessary
- D. Both I and II are necessary

Answer: Option D

Explanation:

Gain = 25% of C.P.

In order to find gain, we must know the sale price of each article and the number of articles sold.

∴ Correct answer is (D).

2. A shopkeeper sells some toys at Rs. 250 each. What percent profit does he make? To find the answer, which of the following information given in Statements I and II is/are necessary?

I. Number of toys sold.

II. Cost price of each toy.

- A. Only I is necessary
- B. Only II is necessary
- C. Both I and II are necessary
- D. Either I or II are necessary
- E. None of these

Answer: Option B

Explanation:

S.P. = Rs. 250 each.

To find gain percent, we must know the C.P. of each.

∴ Correct answer is (B).

Directions to Solve Q3-Q4

Each of the questions given below consists of a statement and / or a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statement(s) is / are sufficient to answer the given question. Read the both statements and

- Give answer (A) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.
- Give answer (B) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.
- Give answer (C) if the data either in Statement I or in Statement II alone are sufficient to answer the question.
- Give answer (D) if the data even in both Statements I and II together are not sufficient to answer the question.
- Give answer (E) if the data in both Statements I and II together are necessary to answer the question.

3. A man mixes two types of rice (X and Y) and sells the mixture at the rate of Rs. 17 per kg. Find his profit percentage.

I. The rate of X is Rs. 20 per kg.

II. The rate of Y is Rs. 13 per kg.

- A. I alone sufficient while II alone not sufficient to answer
- B. II alone sufficient while I alone not sufficient to answer
- C. Either I or II alone sufficient to answer

- D. Both I and II are not sufficient to answer
- E. Both I and II are necessary to answer

Answer: Option D

Explanation:

The ratio, in which X and Y are mixed, is not given.

So, both I and II together cannot give the answer.

∴ Correct answer is (D).

4. By selling a product with 20% profit, how much profit was earned?

- I. The difference between cost and selling price is Rs. 40.
- II. The selling price is 120 percent of the cost price.

- A. I alone sufficient while II alone not sufficient to answer
- B. II alone sufficient while I alone not sufficient to answer
- C. Either I or II alone sufficient to answer
- D. Both I and II are not sufficient to answer
- E. Both I and II are necessary to answer

Answer: Option A

Explanation:

Gain = 20%

I. Profit = (S.P.) - (C.P.) = Rs. 40.

Thus, I give the answer. But, II does not give the answer.

∴ Correct answer is (A).

Directions to Solve Q5-Q6

Each of the questions given below consists of a question followed by three statements. You have to study the question and the statements and decide which of the statement(s) is/are necessary to answer the question.

5. By selling an article what is the profit percent gained?

- I. 5% discount is given on list price.
- II. If discount is not given, 20% profit is gained.
- III. The cost price of the articles is Rs. 5000.

- A. Only I and II
- B. Only II and III
- C. Only I and III

- D. All I, II and III
- E. None of these

Answer: Option A

Explanation:

I. Let the list price be Rs. x .

$$\text{Then, S.P.} = 95\% \text{ of Rs. } x = \text{Rs. } \left(x \times \frac{95}{100} \right) = \text{Rs. } \frac{19x}{20}$$

II. When S.P. = Rs. x and gain = 20%.

$$\text{Then, C.P.} = \text{Rs. } \left(\frac{100}{120} \times x \right) = \text{Rs. } \frac{5x}{6}$$

$$\therefore \text{Gain} = \left(\frac{19x}{20} - \frac{5x}{6} \right) = \left(\frac{57x - 50x}{60} \right) = \frac{7x}{60}$$

$$\therefore \text{Gain \%} = \left(\frac{7x}{60} \times \frac{6}{5x} \times 100 \right) \% = 14\%.$$

Thus, I and II only give the answer.

\therefore Correct answer is (A).

6. What was the percentage of discount given?

- I. 23.5% profit was earned by selling an almirah for Rs. 12,350.
- II. If there were no discount, the earned profit would have been 30%.
- III. The cost price of the almirah was Rs. 10,000.

- A. Only I and II
- B. Only II and III
- C. Only I and III
- D. Any two of the three
- E. None of these

Answer: Option E

Explanation:

I. S.P. = Rs. 12350, Gain = 23.5%

$$\therefore \text{C.P.} = \text{Rs. } \left(\frac{100}{123.5} \times 12350 \right) = \text{Rs. } 10,000.$$

II. M.P. = 130% of C.P. = 130% of Rs. 10,000 = Rs. 13,000.

From I and II, discount = Rs. (13000 - 12350) = Rs. 650.

$$\text{Discount \%} = \left(\frac{650}{13000} \times 100 \right) \% = 5\%.$$

Thus, I and II give the answer.

II and III can not give the answer. Because we require profit percentage with discount and profit percentage without discount. So II and III are not sufficient.

Since III gives C.P. = Rs. 10,000, I and III give the answer.

Therefore, I and II [or] I and III give the answer.

∴ Correct answer is (E).

Directions to Solve Q7

Each of these questions is followed by three statements. You have to study the question and all the three statements given to decide whether any information provided in the statement(s) is redundant and can be dispensed with while answering the given question.

7. What is the percent profit earned by the shopkeeper on selling the articles in his shop?

I. Labeled price of the articles sold was 130% of the cost price.

II. Cost price of each article was Rs. 550.

III. A discount of 10% on labeled price was offered.

A. Only I

B. Only II

C. I and III

D. All the three are required

E. Question cannot be answer even with information in all the three statements.

Answer: Option C

Explanation:

I. Let C.P. be Rs. x .

Then, M.P. = 130% of x = Rs. $\left(\frac{13x}{10}\right)$.

III. S.P. = 90% of M.P.

Thus, I and III give, S.P. = Rs. $\left(\frac{90}{100} \times \frac{13x}{10}\right)$ = Rs. $\left(\frac{117x}{100}\right)$

Gain = Rs. $\left(\frac{117x}{100} - x\right)$ = Rs. $\frac{17x}{100}$

Thus, from I and III, gain % can be obtained.

Clearly, II is redundant.