Quant: Profit and Loss, Averages

Instructions
For the following questions answer them individually

Question 1

17 articles were bought for Rs. 3,910 and sold for Rs. 4,590. How much was the approximate profit percentage per article ?

A 17%

B 12%

C 9%

D 21%

E 25%

Answer: A

Explanation:
Cost price of 1 article = Rs. $\frac{3910}{17}$ = Rs. 230

Selling price of 1 article = Rs. $\frac{4590}{17}$ = Rs. 270

Profit % = $\frac{270-230}{230} * 100$

= 17.39% $\approx$ 17%

Question 2

The cost price of an article is Rs. 390. If it is to be sold at a profit of 3.12 per cent, how much would be its approximate selling price ?

A Rs. 410

B Rs. 402

C Rs. 417

D Rs. 420

E Rs. 442

Answer: B

Explanation:
Profit obtained in selling the article at 3.12%

= $\frac{3.12}{100} * 390 \approx$ Rs. 12

=> Selling price = 390 + 12 = Rs. 402

Question 3

The cost price of an article is Rs.1700. If it was sold at a price of Rs.2006, what was the percentage profit on the transaction?

A 18

B 12

C 10

D 15

E 20

Answer: A

Explanation:

Profit = S.P. - C.P. = 2006 - 1700

= Rs. 306

=> Profit % = $\frac{306}{1700} * 100$

= 18%

Question 4

21 articles were bought for 6531 and sold for Rs.9954. How much was the approximate profit percentage per article?

A 56%

B 43%

C 52%

D 49%

E 61%

Answer: C

Explanation:

C.P. of 1 article = $\frac{6531}{21}$ = Rs. 311

S.P. of 1 article = $\frac{9954}{21}$ = Rs. 474

=> Profit on 1 article = S.P. - C.P. = 474 - 311

= Rs. 163

$\therefore$ Profit % = $\frac{163}{311} * 100$

= 52.4% $\approx$ 52%

Question 5

A person sells half of his goods at 20% profit and remaining half at 30% profit. What is his overall gain per cent in the whole transaction ?

A 30%

B 25%

C 50%

D 35%

E None of these

Answer: B

Explanation:

Let the person has 2 goods and cost price of each good = Rs. 100

=> Total C.P. = Rs. 200

S.P. of 1st good = $\frac{120}{100} \times 100$ = Rs. 120

S.P. of 2nd good = $\frac{130}{100} \times 100$ = Rs. 130

=> Total S.P. = 120 + 130 = Rs. 250

$\therefore$ Overall profit % = $\frac{250-200}{200} \times 100$ = 25 %

Question 6

Meera purchased 23 bracelets at the rate of Rs. 160 per bracelet. At what rate per bracelet should she sell the bracelets so that profit earned is 15% ?

A 184

B 186

C 192

D 198

E None of these

Answer: A

Explanation:
C.P. of 1 bracelet = Rs. 160

S.P. of 1 bracelet after 15 % profit

= $\frac{115}{100} \times 160$

= Rs. 184

Question 7

A shopkeeper sold 8 chairs at a profit of 20% and 6 chairs at a profit of 10%. Had he sold all the 14 chairs at a profit of 12%, his profit would have been reduced by 442. What is the cost price of each chair? (cost of each chair is same)

A Rs. 750

B Rs. 775

C Rs. 825

D Rs. 850

E Rs. 900

Answer: D

Explanation:
Let C.P. of each chair = $100x$

Case 1 : 8 chairs sold at 20% profit

=> S.P. of 8 chairs = $8 \times \frac{120}{100} \times 100x = 960x$

6 chairs sold at 10% profit

=> S.P. of 6 chairs = $6 \times \frac{110}{100} \times 100x = 660x$

$\therefore$ Total S.P. of 14 chairs = $960x + 660x = 1620x$

Case 2 : 14 chairs sold at 12% profit

=> S.P. of 14 chairs = $14 \times \frac{112}{100} \times 100x = 1568x$

Acc. to ques,

=> $1620x - 1568x = 442$

=> $52x = 442$

=> $xx = \frac{442}{52} = 8.5$

∴ C.P. of 1 chair = 100×8.5 = Rs. 850

Question 8

The price of an article is first increased by 20% and later on decreased by 25% due to reduction in sales. Find the net percentage change in final price of article.

A 20%

B 18%

C 38%

D 10%

E None of these

Answer: D

Explanation:

Let the initial price of the article = Rs. $100x$

Price after 20% increase = $\frac{120}{100} \times 100x = 120x$

Price after 25% decrease = $\frac{75}{100} \times 120x$

= $90x$

∴ Net % change = $\frac{100x-90x}{100x} \times 100$

= 10%

Question 9

A profit of 8% is made by selling a shirt after offering a discount of 12%. If the marked price of the shirt is Rs.1,080/-, find its cost price.

A Rs.890/-

B Rs. 780/-

C Rs.880/-

D Rs.900/-

E None of these

Answer: C

Explanation:

Let cost price = Rs. $100x$

=> Selling price = $100x + \frac{8}{100} \times 100x$

= $108x$

Now, after offering 12% discount, Marked price = $\frac{88}{100} \times 1080 = 108x$

=> $\frac{88}{10} = \frac{108x}{108}$

=> $x = \frac{88}{10} = 8.8$

∴ C.P. = 100 * 8.8 = Rs. 880

Question 10

A profit of 25% is earned on goods when a discount of 20% is allowed on the marked price. What profit percentage will be earned when a discount of 10% is allowed on the marked price?

A $45\frac{9}{11}$

B $42\frac{3}{4}$

C $40\frac{5}{8}$

D $37\frac{2}{3}$

E None of these

Answer: C

Explanation:

Let the Marked Price = Rs. 100

=> Selling price = $\frac{80}{100} \times 100 = 80$

$\therefore$ Cost price = $\frac{100}{125} \times 80 = 64$

When discount of 10% is allowed

=> S.P. = $\frac{90}{100} \times 100 = 90$

$\therefore$ Required Profit % = $\frac{90-64}{64} \times 100$

= $\frac{325}{8} = 40\frac{5}{8}\%$

Question 11

A shopkeeper sold an article for Rs.1,380 at a loss of 8%. At what price should it be sold to gaina profit of 8% ?

A Rs.1,560/

B Rs.1,620/

C Rs.1,680/

D Rs.1,740/

E None of these

Answer: B

Explanation:

Let cost price of the article = Rs. $100x$

Loss % = 8%

=> Selling price = $\frac{92}{100} \times 100x = 1380$

=> $x = \frac{1380}{92} = 15$

=> C.P. = 100×15 = Rs. $1,500$

Profit % = 8%

$\therefore$ Selling price = $\frac{108}{100} \times 1500$

= 108×15 = Rs. $1,620$

Question 12

The cost price of item B is Rs. 150/- more than the cost price of item A. Item A was sold at a profit of 10% and item B was sold at a loss of 20%. If the respective ratio of selling prices of items A and B is 11 : 12, what is the cost price of item B?

A Rs. 450/-

B Rs. 420/-

C Rs. 400/-

D Rs. 350/-

E Rs. 480/-

Answer: A

Explanation:
CP of B = CP of A +150
SP of A = 1.10 $\times$ CP of A
SP of B = 0.8 $\times$ CP of B = 0.8 $\times$ (CP of A +150)
SP of A : SP of B = 11: 12
1.10 $\times$ CP of A : 0.8 $\times$ (CP of A +150) = 11:12
13.2 $\times$ CP of A = 8.8 $\times$ (CP of A +150)
13.2 $\times$ CP of A - 8.8 $\times$ CP of A = 1320
4.4 $\times$ CP of A = 1320
CP of A = 1320/4.4 = 300
CP of B = Rs. 450/-
Option A is the correct answer.

Question 13

Mr. Bagdi purchased an Air Con ditioner for Rs. 12.000 and sold it for Rs. 15,000. What was the profit percentage ?

A 25

B 35

C 20

D 15

E None of these

Answer: A

Explanation:
CP of Air Conditioner = Rs 12000
SP of Air Conditioner = Rs 15000
Profit = Rs 3000
Profit % = $3000 \times \frac{100}{12000} = 25\%$

Question 14

Kiran sold an item for 28,160 and Incurred a loss of 15°4). At what price should she have sold the item to have Oiled a profit of 25% ?

A 12,200

B 12,300

C 13,000

D Cannot he determined

E None of these

Answer: E

Explanation:

Selling Price = Cost Price $\times$ (1- $\frac{\text{Loss percentage}}{100}$)

28,160 = Cost Price $\times$ (1-0.15)

28,160 = Cost Price $\times$ (0.85) $\approx$ 33129

Selling Price for profit of 25% = Cost Price $\times$ (1+0.25) = 33129 $\times$ 1.25 $\approx$ =41411

Hence Option E is the correct answer.

Question 15

Savita sold an item for 6,500 and incurred a loss of 20%. At what price should she have sold the item to have gained a profit of 20%?

A 10,375

B 9,750

C 8,125

D Cannot be determined

E None of these

Answer: B

Explanation:

C.P of article = 6500 * (100/80)

= Rs. 8125

S.P for a gain of 20% = (8125*120)/100 = Rs. 9750