Percentage Quiz

Directions: Kindly study the following Questions carefully and choose the right answers :

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

A. 20%

B. 18%

C. 38%

D. 10%

E. None of these

Answer : D

$$\text{Net percentage change} = 20 - 25 - \frac{25 \times 20}{100}$$

$$= 20 - 25 - 5 = -10\%$$

2. If the difference between 85% and 48% of a number is 314.5, then what is 36% of that number?

A. 302

B. 306

C. 312

D. 318

E. None of these

Answer : B

Let the number be x.

Then, $\frac{85x}{100} - \frac{48x}{100} = 56$

or, $\frac{x\,(85-48)}{100} = 314.5$

$\therefore \quad x = \frac{31450}{37} = 850$

Now, 36% of $850 = 850 \times \frac{36}{100} = 306$

3. In 30 litres of milk and water, water is only 20%. How many litres of water should be added to it to increase the percentage of water to 60%?

A. 24 litres

B. 6 litres

C. 20 litres

D. 30 litres

E. None of these

Answer : D

To solve this question, we can apply a short trick approach;

$$\text{Required litres of water} = \frac{A\{(100 - x) - (100 - y)\}}{(100 - y)}$$

Where,

A is the quantity of mixture = 30 ltrs

x is the initial percent of water = 20%

y is required percent of water = 60%

By the short trick approach, we get

$$= \frac{30\{(100 - 20) - (100 - 60)\}}{(100 - 60)}$$

$$= \frac{30 \times (80 - 40)}{40} = 30 \text{ litres.}$$

4. A candidate who gets 20% marks fails by 10 marks but another candidate who gets 42% marks gets 12% more than the passing marks. Find the maximum marks.

A. 150

B. 100

C. 50

D. 250

E. 200

Answer : B

Let the maximum marks be x.

Putting the given info in the eq. form, we get pass marks = (20% of x) + 10 = (42% of x) – (12% of x)

⇒ (20% of x) + 10 = (30% of x)

⇒ (30% of x) – (20% of x) = 10

⇒ 10% of x = 10

∴ x = 100 marks

5. If the difference of 35% of a number and 25% of the same number is 240 then find the 150% of that number.

A. 2200

B. 3000

C. 2400

D. 3600

E. None of these

Answer : D

Let the number be x.
35% of x – 25% of x = 240
10% of x = 240

$$\therefore\ x = \frac{240 \times 100}{10} = 2400$$

$$\text{Now, } 150\% \text{ of } 2400 = \frac{150}{100} \times 2400 = 3600$$

6. In a test, Swati secured 40% marks and failed by 60 marks while Kriti secured 60% marks and passed by 40 marks. Chitra secured 80 marks more than the passing marks. What was her percentage marks?

A. 68%

B. 69.5%

C. 74%

D. 64.5%

E. 71.5%

Answer : A

Let the maximum marks be x.
Given, Swati secure 40% marks and failed by 60 marks while Kriti secured 60% marks and passed by 40% marks.
∴ Putting the given info in the eq form, we get pass marks = (40% of x) + 60 = (60% of x) – 40
⇒ (60% of x) – (40% of x) = 60 + 40
⇒ 20% of x = 100
⇒ x = 500
∴ Maximum marks = 500
Now, Chitra secured 80 marks more than the pass marks.
∴ Chitra scored = (40% of x) + 60 + 80

$= \frac{40}{100} \times 500 + 140 = 340$ marks

Now, Required percentage $= \frac{340}{500} \times 100 = 68\%$

7. A person spent 40% of his monthly salary on house rent and 25% of the remaining salary on food and he saved the remaining amount. If he saves Rs. 48600 annually then what is his monthly salary ?

A. Rs. 8000

B. Rs. 9000

C. Rs. 10000

D. Rs. 12000

E. Rs. 15000

Answer : B

Let monthly salary be Rs. 100.
Remaining salary after spending 40% of his monthly salary on house rent = 100 – 40 = Rs. 60
Remaining amount after spending 25% of the remaining salary on food = 60 – (25% of 60) = Rs. 45
Given that annually saving = Rs. 48600
Then, monthly saving = Rs. 48600 ÷ 12 = Rs. 4050
Now, 45 : 100 : : 4050 : x

$\therefore \quad x = \frac{100 \times 4050}{45}$ = Rs. 9000

8. The growth in the production of a company from 2013 to 2014 was 25% and from 2014 to 2015 was 60%, then what percentage growth took place in the production of the company from 2013 to 2015 ?

A. 125%

B. 85%

C. 100%

D. 150%

E. 75%

Answer : C

Growth in the production from 2013 to 2014 = 25%

Growth in the production from 2014 to 2015 = 60%

Applying the net % effect formula,

Required Percentage = $25 + 60 + 25 \times \frac{60}{100}$ = 100%

9. The salary of an employee of a company increases every month by 5%. If his salary in March was Rs. 7500. What would be his approximate salary in month of July of the same year?

A. 9465

B. 9096

C. 9164.44

D. 9116.25

E. 9024.5

Answer : D

To solve this question, we can apply a net% effect formula

$$\text{Net \% effect} = x + y + \frac{xy}{100}$$

x = 5% for April increment

y = 5% for May increment

Now, apply the net% effect formula

$$\text{Net} = 5 + 5 + \frac{5 \times 5}{100}\% = 10.25\%$$

Now, again for June and July

x = 10.25% for (April + May) and y = 10.25% for (June + July)

$$\text{Net} = 10.25 + 10.25 + \frac{10.25 \times 10.25}{100}\% \approx 21.55\%$$

July month salary = (100 + 21.55)% of 7500

$$= \frac{121.55 \times 7500}{100} = 9116.25$$

10. Boman had a certain amount with him. He spent 20% of that to buy a new cellphone and 15% of the remaining on buying a laptop.

Then he donated Rs. 160 in a temple. If he is left with Rs. 1,200, how much did he buy the laptop for:

A. 220

B. 240

C. 320

D. 350

E. None of these

Answer : B

Approach I:

Let the man had total amount = Rs. x.

Money spent on buying the cellphone = 20% of x = Rs. $\frac{x}{5}$

Now, remaining amount = $x - \frac{x}{5}$ = Rs. $\frac{4x}{5}$

Money spent on buying the laptop = 15% of $\frac{4x}{5}$ = Rs. $\frac{3x}{25}$

Then, he donated Rs. 160 in a temple and left with Rs. 1200.

$\therefore x = \frac{x}{5} + \frac{3x}{25} + 160 + 1200$

$\Rightarrow x - \frac{x}{5} - \frac{3x}{25} = 1360$

$\Rightarrow \frac{17x}{25} = 1360$

$\Rightarrow x = \frac{1360 \times 25}{17} = 2000$

Therefore, the amount he spent on laptop = $\frac{3x}{25} = \frac{3 \times 2000}{25}$ = Rs. 240.

Approach II:

Let the Boman had total amount = Rs. 100.

Money spent on buying the cellphone = 20% of 100 = Rs. 20

Remaining amount after spending on cellphone = 100 – 20 = 80

Money spent on buying the laptop = 15% of 80 = 12

Remaining amount after spending on laptop = 80 – 12 = 68

Now, applying the rule of proportion, we get

68 ≡ 1200 (the money left) + 160 (donated money) or 68 ≡ 1360

12 ≡ x

$$x = \frac{1360 \times 12}{68} = \text{Rs. } 240$$