Answers:

Question 1:

Ans:

Step#1: Given,

- New value = **£60**
- Percentage decreased = **20%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{60}{1 - \frac{20}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{20}{100} = 1 - 0.2 = 0.8$$

$$= 0.8$$

Step#5: The final value is,

$$\text{Original Value} = \frac{60}{0.8} = \frac{60 \times 10}{8}$$

$$\text{Original Value} = \frac{600}{8} = 75$$

The original price of Shirt was **£75.**

Question 2:

Ans:

Step#1: Given,

- New value = **£345**
- Percentage increased = **15%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{345}{1 + \frac{15}{100}}$$

Step#4: Simplify the denominator,

$$= 1 + \frac{15}{100} = 1 + 0.15 = 1.15$$

$$= 1.15$$

Step#5: The final value is,

$$\text{Original Value} = \frac{345}{1.15} = \frac{345 \times 100}{115}$$

$$\text{Original Value} = \frac{34500}{115} = 300$$

The original price of Phone was **£300.**

Question 3:

Ans:

Step#1: Given,

- New value = **£110,000**
- Percentage decreased = **10%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{110000}{1 - \frac{10}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{10}{100} = 1 - 0.1 = 0.9$$

$$= 0.9$$

Step#5: The final value is,

$$\text{Original Value} = \frac{110000}{0.9} = \frac{110000 \times 10}{9}$$

$$\text{Original Value} = \frac{1100000}{9} = 122222.22$$

The original price of House was **£122,222.22**

Question 4:

Ans:

Step#1: Given,

- New value = **£25**
- Percentage increased = **30%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{25}{1 + \frac{30}{100}}$$

Step#4: Simplify the denominator,

$$= 1 + \frac{30}{100} = 1 + 0.3 = 1.3$$

$$= 1.3$$

Step#5: The final value is,

$$\text{Original Value} = \frac{25}{1.3} = \frac{25 \times 10}{13}$$

$$\text{Original Value} = \frac{250}{13} = 19.23$$

The original price of Book was **£19. 23**

Question 5:

Ans:

Step#1: Given,

- New value = **£850**
- Percentage decreased = **25%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{850}{1 - \frac{25}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{25}{100} = 1 - 0.25 = 0.75$$

$$= 0.75$$

Step#5: The final value is,

$$\text{Original Value} = \frac{850}{0.75} = \frac{850 \times 100}{75}$$

$$\text{Original Value} = \frac{85000}{75} = 1133.33$$

The original price of Laptop was **£ 1133.33**

Question 6:

Ans:

Step#1: Given,

- New value = **£127,500**
- Percentage decreased = 1**2.5%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{127500}{1 - \frac{12.5}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{12.5}{100} = 1 - 0.125 = 0.875$$

$$= 0.875$$

Step#5: The final value is,

$$\text{Original Value} = \frac{127500}{0.875} = \frac{127500 \times 1000}{875}$$

$$\text{Original Value} = \frac{127500000}{875} = 145714.28$$

The original revenue of Company was **£ 145,714.28**

Question 7:

Ans:

Step#1: Given,

- New value = **£4720**
- Percentage increased = **18%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{4720}{1 + \frac{18}{100}}$$

Step#4: Simplify the denominator,

$$= 1 + \frac{18}{100} = 1 + 0.18 = 1.18$$

$$= 1.18$$

Step#5: The final value is,

$$\text{Original Value} = \frac{4720}{1.18} = \frac{4720 \times 100}{118}$$

$$\text{Original Value} = \frac{472000}{118} = 4000$$

The original price of Car was **£4000.**

Question 8:

Ans:

Step#1: Given,

- New value = **4290**
- Percentage decreased = 22%

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{4290}{1 - \frac{22}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{22}{100} = 1 - 0.22 = 0.78$$

$$= 0.78$$

Step#5: The final value is,

$$\text{Original Value} = \frac{4290}{0.78} = \frac{4290 \times 100}{78}$$

$$\text{Original Value} = \frac{429000}{78} = 5500$$

The original number of employees in the company was **5500.**

Question 9:

Ans:

Step#1: Given,

- New value = **£1397**
- Percentage increased = **27%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{1397}{1 + \frac{27}{100}}$$

Step#4: Simplify the denominator,

$$= 1 + \frac{27}{100} = 1 + 0.27 = 1.27$$

$$= 1.27$$

Step#5: The final value is,

$$\text{Original Value} = \frac{1397}{1.27} = \frac{1397 \times 100}{127}$$

$$\text{Original Value} = \frac{139700}{127} = 1100$$

The original price of gold was **£1100.**

Question 10:

Ans:

Step#1: Given,

- New value = **£315,800**
- Percentage decreased = 19.5**%**

Step#2: Applying the formula,

$$\text{Original Value} = \frac{\text{Final value}}{1 \pm \frac{\text{Percentage}}{100}}$$

Step#3: Put the values in formula,

$$\text{Original Value} = \frac{315800}{1 - \frac{19.5}{100}}$$

Step#4: Simplify the denominator,

$$= 1 - \frac{19.5}{100} = 1 - 0.195 = 0.805$$

$$= 0.805$$

Step#5: The final value is,

$$\text{Original Value} = \frac{315800}{0.805} = \frac{315800 \times 1000}{805}$$

$$\text{Original Value} = \frac{315800000}{805} = 392298.13$$

The original revenue of Company was **£ 392,298.13**