## Reverse Percentages Practice



**Q1.** The value of an antique vase has increased by 4% and is now worth £1872. Work out the value of the vase before the increase.

$$1892 = 1800$$
 $1.04 = 1872$ 

Answer: £1800

[2 marks]

**Q2**. In a sale, the normal price of a shirt is reduced by 30%. The sale price of the shirt is £6.30. Work out the normal price of the shirt.

$$\frac{0.30}{0.7} = 6.30$$

$$\frac{6.30}{0.7} = 9$$

Answer:  $\cancel{\cancel{\xi}}$ 

- #X
- **Q3**. In a supermarket, bags of sugar have been increased by 6% due to the cost of importing the product from abroad. Given that bags now cost £1.59, how much did the supermarket charge before the price increase?

$$1.59 = £1.50$$
 $1.06$ 

Answer:  $\frac{1}{2}$  (  $\frac{1}{5}$  ( )

[2 marks]

**Q4**. In a sale, normal prices are reduced by 35%. If the normal price of a coat is reduced by £52.50, work out the normal price of the coat.

$$35\% = 52.50 + 35$$
  
 $\times 100 = 150 \times 100$ 

 $A_{\text{nswer}}$ :  $\frac{2}{50}$ 

**Q5.** In a sale, the normal price of a microwave oven is reduced by 22%. The sale price of the microwave is £67.08. Work out the normal price of the oven.



Answer: £86

[2 marks]

**Q6.** The annual cost of a council tax bill increased by 8%. The council tax bill increased by £58. Work out the cost of the council tax bill before the increase.

$$\frac{18}{58}$$
  $\frac{8\%}{100\%} = \frac{58}{100\%} = \frac{58}{125}$ 

Answer:\_



**Q7**. The price of a PC workstation decreased by 7.5%. If the price of the workstation decreased by £120, find the original price.

$$7.5\% = 120$$
  
 $\div 7.5$   
 $\times 100$   $100\% = 1600$   $100\%$ 

Answer: £1600

[2 marks]

**Q8**. One day, George is given a pay rise of 4%. Later that year, he receives another pay rise of 2%. If he now earns £2545.92 per month, work out how much his monthly salary was before the two pay increases.

Answer: £2400

[3 marks]



**Q9**. At the start of 2019, the value of Jeremy's investment was £28,000. During that year, it decreased in value by 4%. In 2020, it then increased in value by x%. If it was worth £27,283.20 at the end of 2020, find the value of x.

$$28000 \times 0.96 = 26880$$
 $26880 \times \boxed{} = 27283.20$ 
 $27283.20 = 1.015 = 1.5$ 
 $26880$ 

[3 marks]

**Q10**. Jo's tortoise increased in weight by 1% each year since its birth. If it is now 3 years old, and weighs 4 kg, find the birth weight to the nearest gram.

$$\frac{4000}{1.003} = 3882$$

Answer:

[3 marks]



## Reverse Percentage, Or Not?

**Q11**. The population of birds on St. Michael's island is 2200. Scientists state that the population is growing by 10% each year. What will be the population next year, according to the scientists?

(Not reverse)

2200 x (·) = 2420

Answer:

[2 marks]

Q12. A car cost £8500 when it is bought, and depreciates by 15% over the first year after purchase. How much will it be worth after 1 year?

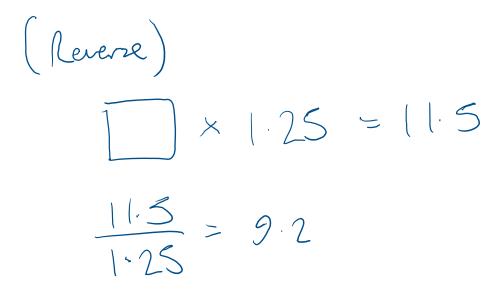
(Not reverse)

8500 × 0-85 = 7225

Answer: 7 9 2 2 5

5 m<sup>2</sup> after he had an extension built.

**Q13**. John's kitchen measured 11.5 m<sup>2</sup> after he had an extension built. The area had increased by 25% after extending. What area did his kitchen cover before?



Answer: 9.2 montrel

**Q14**. After half-time, the number of spectators at a rugby match decreases by 9%. There were 45,000 spectators before half-time. How many remain?

(Not reverse) 45000 × 0.91 = 40950

Answer: 40950

Q15. Mae buys a ring which costs £68. This cost includes VAT at a rate of 20%. How much is the watch without VAT, to the nearest penny?



(Reverse)  $-) \times 1.2 = 68$ 

65 = 56.67 1.2

Answer: 56, 67
[2 marks]