QT Percentage Change

1. Sapna buys a house for £182 000. After 3 years Sapna sells the house for £195 000. Calculate the percentage profit Sapna makes. Give your answer correct to 2 decimal places.
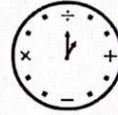
$$\frac{Diff}{orig} \times 100 \qquad \frac{195,000 - 182,000}{182,000} \times 100$$

$$= 7.14\%.$$

2. In 2020 Edward paid £465 for his home insurance. In 2021 Edward had to pay £550 for his home insurance. Work out the percentage increase in the cost of Edwards home insurance. Give your answer correct to 3 significant figures.

$$\frac{Diff}{orig} \times 100 \qquad = \frac{550 - 465}{465} \times 100$$

$$= 18.3\%.$$

3. In 2001 the population of Leeds was 445,000. In 2021 the population had increased to 521,000. Work out the percentage increase in population. Give your answer correct to 1 decimal place.

$$\frac{Diff}{orig} \times 100 \qquad \frac{521,000 - 445,000}{445,000} \times 100$$

$$= 17.1\%.$$

4. Last year George paid £891 for a season ticket to his favourite football team. This year he has to pay £955 for his season ticket. Calculate the percentage increase in the cost of his season ticket. Give your answer correct to 3 significant figures.

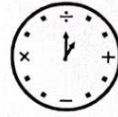$$\frac{Diff}{orig} \times 100 \quad = \quad \frac{64}{891} \quad = \quad 7.19's.$$

5. Qasim buys a new MTB bike for £1200. After one year he sells the bike for £750. Work out Qasim's percentage loss.

$$\frac{Diff}{orig} \times 100 \qquad \frac{750 - 1200}{1200} \times 100 = -37.5's.$$

6. Josh buys a box of 24 packets of crisps. He pays £6.50 for the crisps. Josh sells all 24 packets of crisps for 99p each. Work out Josh's percentage profit. Give your answer correct to 2 decimal places.

$$24 \times 0.99 = £23.76$$

$$\frac{Diff}{orig} \times 100 \quad = \quad \frac{23.76 - 6.50}{6.50} \times 100$$
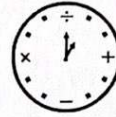
$$= 265.54's.$$

7. Manahil buys a house for £185,000 in 2019. She decides to sell the house in 2020 for £160,000. Calculate the percentage loss correct to 3 significant figures.

$$\frac{Diff}{orig} \times 100 \quad = \quad \frac{160,000 - 185,000}{185,000} \times 100$$

$$= -13.5\%$$

8. Varsha buys 50 bars of chocolate. She pays £26 for the chocolate. Varsha sells 20 bars for 85p each. She then sells the remaining bars for 50p each. Work out Varsha's percentage profit. Give your answer correct to 1 decimal place.

$$20 \times 0.85 = 17$$
$$30 \times 0.50 = \frac{15.}{32}$$

$$\frac{32 - 26}{26} \times 100$$

$$= 23.1\%$$

$$\frac{Diff}{orig} \times 100$$

1800g

9. Tom buys 1.8kg of chocolate buttons. He pays £3.20 for the chocolate buttons. Tom puts the chocolate buttons into bags. He puts 200g of buttons in each bag. Tom then sells each bag for 40p. Work out Tom's percentage profit.

$$\frac{1800}{200} = 9 \text{ bags}.$$

$$9 \times 0.4 = £3.60$$

$$\frac{\text{Diff}}{\text{orig}} \times 100$$

$$\frac{3.60 - 3.20}{3.20} \times 100$$

$$= 12.5\%.$$

10. Eshal buys a packet of 8 pens. The pack costs £2.50. Eshal then sells 2 of the pens for £4.25 each. She then sells the remaining pens for £3.99 each. Work out Eshal's percentage profit.

$$2 \text{ pens} = 2 \times 4.25 = 8.50$$
$$6 \text{ pens} = 6 \times 3.99 = \underline{23.94}$$
$$32.44$$

$$\frac{\text{Diff}}{\text{orig}} \times 100 \qquad = \frac{32.44 - 12.50}{12.50} \times 100$$

$$= 159.52\%.$$