Q1.

Profit = Selling price − Cost price

= £203,230 − £189,400

= £13,830

Percentage profit = (Profit ÷ Cost price) × 100

= (13,830 ÷ 189,400) × 100

Now calculate:

13,830 ÷ 189,400 = 0.0730 (approx.)

0.0730 × 100 = 7.30%

Q2.

Loss = Cost price − Selling price

= £368,500 − £341,200 = £27,300

Percentage loss = (Loss ÷ Cost price) × 100

= (27,300 ÷ 368,500) × 100

= 0.0741 × 100 = 7.41%

Q3.

Increase = New amount − Old amount

= £2,058 − £1,940 = £118

Percentage increase = $\frac{118}{1{,}940} \times 100$

$$\frac{118}{1{,}940} = 0.06082$$

$$0.06082 \times 100 = 6.082\%$$

Rounded to 1 decimal place = 6.1%

Q4.

Decrease = Old amount − New amount

= £412 − £378 = £34

Percentage decrease = $\frac{34}{412} \times 100$

$$34 \div 412 = 0.08252$$

$$0.08252 \times 100 = 8.252\%$$

Rounded to 1 decimal place = 8.3%

Q5.

Increase = New population − Old population

= 7.8 − 6.5 = 1.3 billion

Percentage increase = $\frac{1.3}{6.5} \times 100$

$$1.3 \div 6.5 = 0.2$$

$$0.2 \times 100 = 20\%$$

Q6.

Decrease = Old amount − New amount

= 21.5 − 19.8 = 1.7 million

Percentage decrease = $\frac{1.7}{21.5} \times 100$

$$1.7 \div 21.5 = 0.07907$$

$$0.07907 \times 100 = 7.907\%$$

Rounded to three significant figures = 7.91%

Q7.

Increase = New amount − Old amount

= £2,868 − £2,720 = £148

Percentage increase = $\frac{148}{2{,}720} \times 100$

$$148 \div 2{,}720 = 0.05441$$

$$0.05441 \times 100 = 5.441\%$$

Rounded to 3 significant figures = 5.44%

Q8.

Change = New price − Old price

= £395,120 − £382,450 = £12,670

Percentage change = $\frac{12{,}670}{382{,}450} \times 100$

$$12{,}670 \div 382{,}450 \approx 0.03314$$

$$0.03314 \times 100 \approx 3.3\%$$

Q9.

Loss = Cost price − Selling price

= £15,200 − £11,400 = £3,800

Percentage loss = $\frac{3{,}800}{15{,}200} \times 100$

$$3{,}800 \div 15{,}200 = 0.25$$

$$0.25 \times 100 = 25.0\%$$

Q10.

Cost = £21

- Revenue from 40 cans at £0.55 each: $40 \times 0.55 = £22.00$
- Remaining cans = 60 − 40 = 20 cans at £0.25 each: $20 \times 0.25 = £5.00$

Total revenue = 22.00 + 5.00 = £27.00

Profit = Revenue − Cost = 27.00 − 21.00 = £6.00

$$\text{Percentage profit} = \frac{\text{Profit}}{\text{Cost}} \times 100$$

$$= \frac{6.00}{21.00} \times 100 = 0.2857 \times 100 \approx 28.6\%$$

Q11.

Cost = £2.10

Revenue = 10 × £0.30 = £3.00

Profit = Revenue − Cost = 3.00 − 2.10 = £0.90

$$\text{Percentage profit} = \frac{0.90}{2.10} \times 100$$

$$0.90 \div 2.10 \approx 0.42857$$

$$0.42857 \times 100 \approx 42.9\%$$

Q12.

Cost = £4.50

Revenue = 30 × £0.40 = £12.00

Profit = Revenue − Cost = 12.00 − 4.50 = £7.50

$$\text{Percentage profit} = \frac{7.50}{4.50} \times 100$$

$$7.50 \div 4.50 \approx 1.6667$$

$$1.6667 \times 100 \approx 166.7\%$$

Q13.

Cost = £3.60

Revenue = 12 × £0.50 = £6.00

Profit = Revenue − Cost = 6.00 − 3.60 = £2.40

$$\text{Percentage profit} = \frac{2.40}{3.60} \times 100$$

$$2.40 \div 3.60 = 0.6667$$

$$0.6667 \times 100 \approx 66.7\%$$

Q14.

Total weight = 1.5 kg = 1500 g

Weight per bag = 200 g

Number of bags = 1500 ÷ 200 = 7.5 bags

Since he can only sell full bags, number of bags = 7 bags

Revenue = 7 × £0.40 = £2.80

Profit = Revenue − Cost = 2.80 − 3.00 = −£0.20

Since the profit is negative, this is a loss.

Percentage loss= $\frac{0.20}{3.00}$×100 = 6.67%
