

PERCENTAGES, RATIOS & EXCHANGE RATES**Best Guess Mastery Worksheet (Target Grade 4/5)****I Do**

A television has a normal price of £450.

In a sale, the price is reduced by 18%.

Work out the sale price of the television.

We Do

A laptop has a normal price of £620.

In a sale, the price is reduced by 15%.

Work out the sale price of the laptop.

PERCENTAGES, RATIOS & EXCHANGE RATES**Best Guess Mastery Worksheet (Target Grade 4/5)****You Do 1**

A sofa has a normal price of £850.

In a sale, it is reduced by 24%.

Work out the sale price of the sofa.

You Do 2

Katie buys a car for £4500.

After one year, the value of the car decreases by 12%.

Work out the value of the car after one year.

PERCENTAGES, RATIOS & EXCHANGE RATES**Best Guess Mastery Worksheet (Target Grade 4/5)****Challenge 1**

John and Emily share £800 in the ratio 3 : 5.

Emily invests her share of the money in a savings account.

The account pays 4% simple interest per year.

How much money does Emily have in the account after 1 year?

Challenge 2

Tom buys a watch in France for €140.

The exchange rate is £1 = €1.12

He brings the watch back to the UK and sells it at a 15% loss.

Work out how much Tom sells the watch for in pounds (£).

PERCENTAGES, RATIOS & EXCHANGE RATES**Best Guess Mastery Worksheet (Target Grade 4/5)****Challenge 3**

Paige buys a rare painting for £120.

She later sells the painting for £150.

(a) Calculate her percentage profit.

Paige shares her £30 profit with Anna in the ratio 2 : 3.

(b) How much money does Anna get?

Challenge 4

Mark earns £400 a week.

He gets a pay rise of 5%.

He splits his **new** weekly pay into rent, bills, and savings in the ratio 4 : 3 : 1.

Work out how much **more** money he puts into savings now compared to if he split his **old** pay in the exact same ratio.

PERCENTAGES, RATIOS & EXCHANGE RATES**Best Guess Mastery Worksheet (Target Grade 4/5)****Challenge 5**

Sophie and Keeley go on holiday to America.

They change £600 into US dollars (\$) at an exchange rate of £1 = \$1.25

They share the dollars in the ratio 3 : 2.

Sophie spends 40% of her share of the dollars on clothes.

How many dollars does Sophie have left?

Answers & Worked Solutions

I Do:

$$18\% \text{ of } £450 = 0.18 \times 450 = £81.$$

$$\text{Sale price} = 450 - 81 = \textbf{£369}.$$

$$(\text{Alternative: } 450 \times 0.82 = 369)$$

We Do:

$$15\% \text{ of } £620 = 0.15 \times 620 = £93.$$

$$\text{Sale price} = 620 - 93 = \textbf{£527}.$$

$$(\text{Alternative: } 620 \times 0.85 = 527)$$

You Do 1:

$$24\% \text{ of } £850 = 0.24 \times 850 = £204.$$

$$\text{Sale price} = 850 - 204 = \textbf{£646}.$$

$$(\text{Alternative: } 850 \times 0.76 = 646)$$

You Do 2:

$$12\% \text{ of } £4500 = 0.12 \times 4500 = £540.$$

$$\text{Value after one year} = 4500 - 540 = \textbf{£3960}.$$

$$(\text{Alternative: } 4500 \times 0.88 = 3960)$$

Challenge 1:

$$\text{Total ratio parts} = 3 + 5 = 8.$$

$$1 \text{ part} = 800 \div 8 = £100.$$

$$\text{Emily's share (5 parts)} = 5 \times 100 = £500.$$

$$\text{Interest} = 4\% \text{ of } 500 = 0.04 \times 500 = £20.$$

$$\text{Total in account} = 500 + 20 = \textbf{£520}$$

Challenge 2:

$$\text{Convert € to £: } 140 \div 1.12 = £125.$$

$$15\% \text{ loss} = 0.15 \times 125 = £18.75.$$

$$\text{Sale price} = 125 - 18.75 = \textbf{£106.25}$$

Challenge 3:

$$(a) \text{ Percentage profit} = (\text{Change} \div \text{Original}) \times 100 = (30 \div 120) \times 100 = \textbf{25\%}.$$

$$(b) \text{ Total parts} = 2 + 3 = 5. \text{ 1 part} = 30 \div 5 = £6.$$

$$\text{Anna gets 3 parts} = 3 \times 6 = \textbf{£18}.$$

Challenge 4:

Total ratio parts = $4 + 3 + 1 = 8$.

Old savings: $400 \div 8 = \text{£}50$ (1 part).

New pay: $400 \times 1.05 = \text{£}420$.

New savings: $420 \div 8 = \text{£}52.50$ (1 part).

Difference = $52.50 - 50 = \text{£}2.50$

Challenge 5:

Convert to Dollars: $600 \times 1.25 = \$750$.

Total ratio parts = $3 + 2 = 5$. 1 part = $750 \div 5 = \$150$.

Sophie gets 3 parts = $3 \times 150 = \$450$.

Sophie spends 40% = $0.40 \times 450 = \$180$.

Sophie has left = $450 - 180 = \text{\$}270$