GCSE Maths – Ratio, Proportion, and Rates of Change

Simple Percentage Interest

Worksheet

WORKED SOLUTIONS

This worksheet will show you how to work out different types of simple percentage interest questions. Each section contains a worked example, a question with hints and then questions for you to work through on your own.

Section A

Worked Example

Hana deposits £800 in a bank that pays 4.5% simple interest a year. Work out the interest paid by the bank in 3 years.

Step 1: Convert percentage to decimal.

$$4.5\% = 0.045$$

Step 2: Multiply the decimal by the given amount.

$$0.045 \times 800 = 36$$

This means that there is an increase of £36 per year.

Step 3: Multiply the amount of interest by the given time period.

$$36 \times 3 = 108$$

The interest for saving for 3 years is £**108**.

Guided Example

Chloe loans £5500 from a bank where the cost of borrowing is 3% per year. Calculate the amount of simple interest Chloe pays in 6 years.

Step 1: Convert percentage to decimal.

3% = 0.03

÷100

Step 2: Multiply the decimal by the given amount.

0.03 x 5500 = 165

Step 3: Multiply the amount of interest by the given time period.

165 x 6 = 990

Chloe pays £990

Now it's your turn!
If you get stuck, look back at the worked and guided examples.

1. Ethan loans £700 from a bank where the cost of borrowing is 5% per year. Calculate the amount of simple interest Ethan pays in 2 years.

5% ÷100 = 0.05

0.05 × 700 = 35

35 × 2 = 70

Ethan pays £70

2. Rhea deposits £1150 in a bank that pays 4% simple interest a year. Work out the interest paid by the bank in 3 years.

4% ÷100 = 0.04

0.04 × 1150 = 46

46 × 3 = 138

Rhea earns £138 from the bank

3. Delaney loans £5800 from a bank where the cost of borrowing is 6.7% per year. Calculate the amount of simple interest Delaney pays in 10 years.

6.7% = 0.067 ÷100

0.067 × 5800 = 388.60

388.6 × 10 = 3886

Delaney pays £3886

4. Maya deposits £756 in a bank that pays 2.3% simple interest a year. Work out the interest paid by the bank in 6 years.

2.3% ÷100 = 0.023

0.023 × 756 = 17.388

17.388 × 6 = 104.328

Maya earns £104.33

Section B

Worked Example

The bank offers 2.5% simple interest per annum. Oliver invests £11000 at this bank. Calculate the total sum of amount in his account after 5 years.

Step 1: Convert the percentage to decimal.

$$2.5\% = 0.025$$

Step 2: Multiple the decimal by the given amount.

$$0.025 \times 11000 = 275$$

This means that there is £275 per year.

Step 3: Multiply the amount of interest by the time period.

$$275 \times 5 = 1375$$

The interest for saving for 5 years is £1375

Step 4: To calculate the total sum of money, add the interest to the starting sum.

$$1375 + 11000 = 12375$$

After 5 years, there will be **£12375** in Oliver's bank account.

Guided Example

Ryan deposits £7500 in a bank that pays 4.6% simple interest a year. Calculate the total sum of amount in Ryan's account after 2 years.

Step 1: Convert the percentage to decimal.

4.6% = 0.046

÷100

Step 2: Multiple the decimal by the given amount.

0.046 x 7500 = 345

Step 3: Multiply the amount of interest by the given time period.

345 x 2 = 690

Step 4: To calculate the total sum of money, add the interest to the starting sum.

690 + 7500 = 8190

There is £8190 in Ryan's Account

Now it's your turn!
If you get stuck, look back at the worked and guided examples.

5. Katy deposits £7070 in a bank that pays 3.4% simple interest a year. Calculate the total sum of amount in Katy's account after 3 years.

3.4% = 0.034

0.034 × 7070 = 240.38

240.38 × 3 = 721.14

721.14 + 7070 = 7791.14

There is £7791.14 in Katy's account

6. The bank offers 2.5% simple interest per annum. Ian invests £11000 at this bank. Calculate the total sum of amount in his account after 5 years.

2.5% = 0.025

0.025 × 11000 = 275

275 × 5 = 1375

1375 + 11000 = 12375

There is £12,375 in Ian's account

7. Amelia deposits £7500 in a bank that pays 4.6% simple interest a year. Calculate the total sum of amount in Amelia's account after 2 years.

4.6% = 0.046

0.046 × 7500 = 345

345 × 2 = 690

7500 + 690 = 8190

There is £8190 in Amelia's bank account.

8. Saarah invests £5000 in a bank charging 4.4% simple interest a year. Maryam invests £4600 in a different bank charging 6.9% simple interest a year. Who earns the most after 8 years?

Saarah

4.4% = 0.044

0.044 × 5000 = 220

220 × 8 = 1760

Maryam

6.9% = 0.069

0.069 × 4600 = 317.4

317.4 × 8 = 2539.2

1760 < 2539.20, therefore Maryam earns more interest after 8 years