

Exchange Rates

Solutions

For AQA GCSE Mathematics (8300) • Foundation tier

Each question is shown in grey, followed by the working, one step per line. The final answer is in a box. *Marks* shows how the marks are usually given in the exam, and **Tip** points out a common mistake.

1 (2 marks)

A train ticket in Poland costs 96 zloty.

Use £1 = 4.8 zloty

Work out the cost of the ticket in pounds.

Each £1 is worth 4.8 zloty.

To change zloty into pounds, divide by 4.8

$$96 \div 4.8 = 20$$

Answer: £20

Tip: Check your answer makes sense. £1 buys more than 1 zloty, so the number of pounds must be **smaller** than 96. Multiplying ($96 \times 4.8 = 460.8$) is the most common mistake.

Marks: 1 mark for $96 \div 4.8$. 1 mark for 20.

2 (1 mark)

Use £1 = \$1.25

How many dollars is £80?

Circle your answer.

Options: \$64, \$81.25, \$100, \$125

Each £1 is worth \$1.25

To change pounds into dollars, multiply by 1.25

$$80 \times 1.25 = 100$$

Answer: \$100

3 (1 mark)

The exchange rate is £1 = 1.15 euros.

Ali says,

‘To change pounds into euros, you divide by 1.15’

Is Ali correct? Tick a box.

Give a reason for your answer.

Each £1 is worth 1.15 euros, which is more than 1 euro.

So you get **more** euros than pounds.

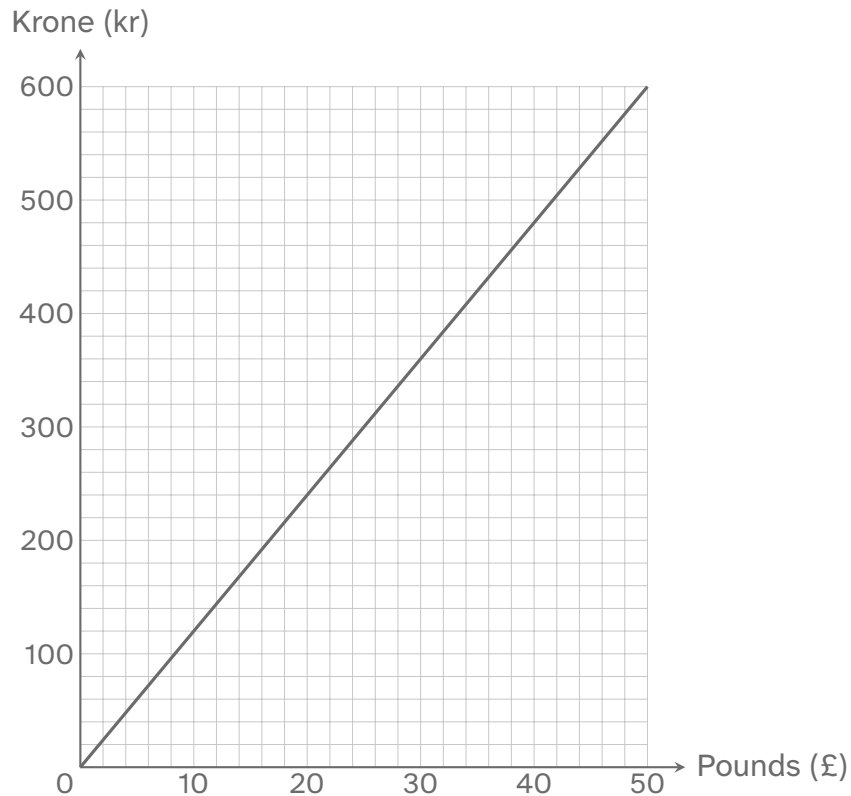
This means you multiply by 1.15

For example, £10 = $10 \times 1.15 = 11.50$ euros.

Answer: No. To change pounds into euros you multiply by 1.15

4 (3 marks)

The graph can be used to convert between pounds (£) and Norwegian krone (kr).



- (a) Use the graph to convert 360 krone into pounds.

Find 360 on the vertical (krone) axis.

Go across to the line, then down to the pounds axis.

It meets the pounds axis at 30.

Answer: £30

- (b) Convert £500 into krone.

The graph only goes up to £50, so use a reading and scale it up.

From the graph, £50 = 600 krone.

$$500 = 10 \times 50$$

So $£500 = 10 \times 600 = 6000$ krone.

Answer: 6000 krone

Tip: Use a reading from the graph that is easy to scale, such as £50 or £10. Scaling up a tiny reading near 0 makes any error much bigger.

Marks: 1 mark for reading a pair of values from the graph and scaling up. 1 mark for 6000.

5 (3 marks)

Imogen wants to buy a guitar.

A UK shop sells the guitar for £420

A US website sells the same guitar for \$480 plus \$65 for delivery.

The exchange rate is $£1 = \$1.27$

Where should Imogen buy the guitar to pay less?

You must show your working.

Find the total cost on the US website first:

$$480 + 65 = 545 \text{ dollars}$$

Change this into pounds (divide by 1.27):

$$545 \div 1.27 = 429.133 \dots$$

So the US website costs about £429.13

The UK shop costs £420

£420 is less than £429.13

So Imogen should buy it from the UK shop (it is about £9.13 cheaper).

Answer: The UK shop

Tip: Include the delivery charge before you convert. Comparing only \$480 (£377.95) with £420 gives the wrong answer.

Marks: 1 mark for 545. 1 mark for $545 \div 1.27$ or 429.13. 1 mark for the UK shop, with the correct comparison.

6 (3 marks)

Jo wants to change £300 into euros.
Two bureaux have these offers.

Bureau A £1 = 1.18 euros 3% fee
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Bureau B £1 = 1.14 euros No fee
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At Bureau A, the fee is 3% of the pounds. It is taken first, then the rest of the money is changed into euros.

Which bureau gives Jo more euros?
You must show your working.

Bureau A: the fee is 3% of £300

$300 \times 0.03 = 9$, so £9 is taken as the fee.

Jo changes $300 - 9 = 291$ pounds.

$291 \times 1.18 = 343.38$ euros

Bureau B: $300 \times 1.14 = 342$ euros

343.38 euros is more than 342 euros

So Bureau A gives Jo more euros.

Answer: Bureau A

Tip: Take off the fee **before** you change the money. Bureau A has the better rate, but you must check that the fee does not cancel this out.

Marks: 1 mark for 291 (or 9). 1 mark for 343.38 and 342. 1 mark for Bureau A, with the correct comparison.

7 (3 marks)

Aled is going to Japan.

He needs at least 38 000 yen.

The bureau only sells yen in 10 000-yen notes.

He buys the smallest number of notes that gives him enough yen.

The exchange rate is £1 = 190 yen.

Work out how much Aled pays in pounds.

Each note is 10 000 yen.

$$38\,000 \div 10\,000 = 3.8$$

3 notes (30 000 yen) is not enough, so he needs 4 notes.

$$4 \text{ notes} = 40\,000 \text{ yen}$$

Yen to pounds: divide by 190

$$40\,000 \div 190 = 210.526 \dots$$

Round to the nearest penny: £210.53

Answer: £210.53

Tip: Here you round **up**: 3 notes would leave Aled short. Then change the 40 000 yen (not 38 000) into pounds.

Marks: 1 mark for 4 notes or 40 000 yen. 1 mark for dividing by 190. 1 mark for 210.53.

8 (4 marks)

Deepak changed some pounds into euros.

The exchange rate was £1 = 1.16 euros.

On holiday he spent 410 euros.

He had 54 euros left.

(a) How many pounds did Deepak change into euros?

$$\text{Total euros} = 410 + 54 = 464 \text{ euros}$$

He changed pounds into euros, so to go back, divide by 1.16

$$464 \div 1.16 = 400$$

Answer: £400

Tip: Work backwards: the euros he spent **and** the euros left over came from the pounds he changed.

Marks: 1 mark for 464. 1 mark for $464 \div 1.16$. 1 mark for 400.

- (b) When he gets home, Deepak changes the 54 euros back into pounds.
The exchange rate is now £1 = 1.20 euros.
How many pounds does he get?

Euros to pounds: divide by 1.20

$$54 \div 1.20 = 45$$

Answer: £45

9 (3 marks)

Four friends go out for a meal in Spain.
Each meal costs 18.50 euros.
They also pay 12 euros for drinks in total.
They share the total cost equally.
Use £1 = 1.16 euros

Work out how much each person pays, in pounds.

Find the total cost in euros:

$$4 \times 18.50 = 74 \text{ euros for the meals}$$

$$74 + 12 = 86 \text{ euros in total}$$

Share it between 4 people:

$$86 \div 4 = 21.50 \text{ euros each}$$

Change into pounds (divide by 1.16):

$$21.50 \div 1.16 = 18.534 \dots$$

Round to the nearest penny: £18.53

Answer: £18.53

Marks: 1 mark for 86. 1 mark for dividing by 4 and by 1.16. 1 mark for 18.53 or 18.54.
