

Proportion and currency

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Date: _____

Proportion and currency

Sit down with a
pen and paper.

Starter – British money

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1p



2p



5p



10p



20p



50p



£1



£2

1 What is the sum of all the coins?

2 What is the mean value?

Mean: Add and divide by the number of coins.

3 Five coins add to £1.77. **What are they?**

4 What shape is the 50p?

5 How many 20p coins are equal to this? →

6 What is £20 subtract all the coins?



Answers

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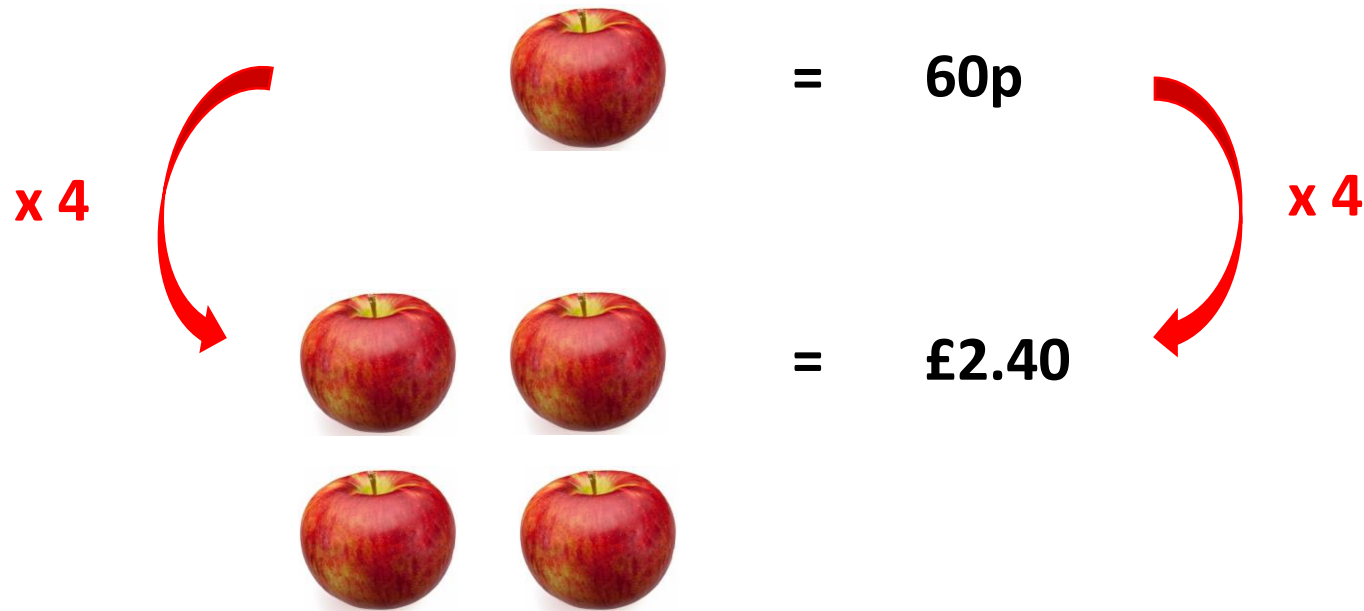
- 1 What is the sum of all the coins? **£3.88**
- 2 What is the mean value? **48.5p**
- 3 Five coins add to £1.77. **What are they?** **£1 + 50p + 20p + 5p + 2p**
- 4 What shape is the 50p? **Heptagon**
- 5 How many 20p coins are equal to this? **175**
- 6 What is £20 subtract all the coins? **£16.12**





Proportion

Two quantities are in direct proportion when they increase or decrease in the same ratio.



The **number of apples** and the **cost of the apples** are in direct proportion.

Countries that use the euro



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AUSTRIA



BELGIUM



CYPRUS



ESTONIA



FINLAND



FRANCE



GERMANY



GREECE



IRELAND



ITALY



LATVIA



LITHUANIA



LUXEMBOURG



MALTA



NETHERLANDS



PORTUGAL



SLOVAKIA



SLOVENIA



SPAIN



The Euro (€)

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1 cent

2 cent

5 cent

10 cent

20 cent

50 cent

€1

€2

1 A bottle of water costs €1.20. **How much does a pack of 6 cost?**

2 How much change would you get from €20?



3 A ticket to a museum costs €7.50, **how much will 5 tickets cost?**

4 What change will you get from this?



5 You have collected money from your friends and are going to buy Metro tickets. An individual ticket costs **€4.65** and you need **8 tickets**. **Have you got enough money?**





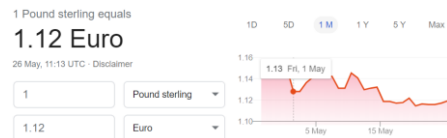
- 1 A bottle of water costs €1.20. **How much does a pack of 6 cost?**
€7.20
- 2 How much change would you get from €20? **€12.80**
- 3 A ticket to a museum costs €7.50, **how much will 5 tickets cost?**
€37.50
- 4 What change will you get from this? **€2.50**
- 5 You have collected money from your friends and are going to buy Metro tickets. An individual ticket costs €4.65 and you need 8 tickets.
Have you got enough money?

Yes you have €38 and the tickets come to €37.20

Money exchange

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See latest exchange rate:



You can exchange **£1** for **€1.12**



We can write this exchange rate as a ratio.

Calculator
allowed

Pound : Euro
£1 : €1.12

Use the next four questions as examples of how to work between currencies. Click on the question to see a method and the answer.

1 How many euros can I get for **£200**?

2 How many pounds can I get for **€22.40**?

3 How many euros can I get for **£600**?

4 How many pounds can I get for **€896**?



Calculator
allowed

$$\begin{array}{ccc} \text{Pound : Euro} & & \\ \text{£1 : €1.12} & & \\ \text{x 200} \swarrow & & \searrow \text{x 200} \\ \text{£200 : €224} & & \end{array}$$

You can use this method to scale up each currency.

Money exchange

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How many of this go into that?
How many **€1.12** go into **€22.40**.
This sentence is a division.



Calculator
allowed

Pound : Euro

$$22.40 \div 1.12 = 20$$

$\text{£1} : \text{€1.12}$

$\times 20$ $\text{£20} : \text{€22.40}$ $\times 20$

You can use this method to scale up each currency.



Calculator
allowed

Pound : Euro

$$\begin{array}{c} \text{x 1.12} \\ \text{£1 : €1.12} \\ \text{£600: €672} \\ \text{x 1.12} \end{array}$$



Calculator
allowed

Pound : Euro

$\div 1.12$



£1 : €1.12

£800 : €896



$\div 1.12$

Test your understanding

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Pound : Euro

£1 : €1.12



Calculator
allowed

You can exchange **£1** for **€1.12**

- 1 How many euros can you get for **£2**?
- 2 How many euros can you get for **£300**?
- 3 A jumper cost **€112**, what would be the cost in pounds?
- 4 You want to exchange **£550** to euros, how many will you get?
- 5 At the end of your holiday you have **€33.60**, what is this in pounds?
- 6 You find a place offering a different exchange rate of **£1 : €1.15**.
How much extra will you get if you exchange **£200**?

Pound : Euro

£1 : €1.12



You can exchange **£1** for **€1.12**

- 1 How many euros can you get for **£2**? **€2.24**
- 2 How many euros can you get for **£300**? **€336**
- 3 A jumper cost **€112**, what would be the cost in pounds? **£100**
- 4 You want to exchange **£550** to euros, how many will you get? **€616**
- 5 At the end of your holiday you have **€33.60**, what is this in pounds?
£30
- 6 You find a place offering a different exchange rate of **£1 : €1.15**.
How much extra will you get if you exchange **£200**?

$$200 \times 1.12 = €224$$

$$200 \times 1.15 = €230$$

$$230 - 224 = €6$$

- a Alice wants to book a holiday for one adult and one child.

Alice has £1000.

Does she have enough money to book this holiday using the special offer?

You **must** show your working.

Holiday

£720 per adult

£430 per child

Special Offer

15% off

- b Ben changes **£800** to Euros before he goes on holiday.

The exchange rate is **£1 : €1.25**

He spends **€895**.

He changes the Euros that he has left to Pounds.

The exchange rate is now **£1 : €1.40**.

How many Pounds does he get back?



Exam question

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Laura buys a saddle in the UK for **£850**.
Delivery is free.

Steve buys the same saddle from Holland for **€990**.
He pays **€15** for delivery.

£1 : €1.18

Including the delivery charge, whose saddle is **cheaper**?
You **must** show your working.



a Meg goes on holiday.

She changes **£700** to euros.

The exchange rate is **£1 : €1.1**

How many euros does she receive?

b Meg spends **€596**.

She changes the rest back to pounds.

The exchange rate is now **£1 : €1.2**

How much, in pounds, does she get back?



- a Alice wants to book a holiday for one adult and one child.

Alice has £1000.

Does she have enough money to book this holiday using the special offer?

You **must** show your working.

Holiday

£720 per adult

£430 per child

Special Offer

15% off

$$720 + 430 = £1150$$

$$1150 - 172.5 = £977.50$$

$$£1150 \times 0.15 = £172.50$$

Yes she has enough money.

- b Ben changes **£800** to Euros before he goes on holiday.

The exchange rate is **£1 : €1.25**

$$800 \times 1.25 = €1000$$

He spends **€895**.

$$€1000 - €895 = €105$$

He changes the Euros that he has left to Pounds.

The exchange rate is now **£1 : €1.40**.

$$€105 \div 1.4 = £75$$

How many Pounds does he get back?



Laura buys a saddle in the UK for **£850**
Delivery is free.

Steve buys the same saddle from Holland for **€990**.
He pays **€15** for delivery.

£1 : €1.18

Including the delivery charge, whose saddle is **cheaper**?
You **must** show your working.

$$990 + 15 = €1005$$

$$€1005 \div 1.18 \approx \text{£}851.69$$

Laura's saddle is cheaper.

a Meg goes on holiday.

She changes **£700** to euros.

$$700 \times 1.1 = \text{€}770$$

The exchange rate is **£1 : €1.1**

How many euros does she receive?

b Meg spends **€596**.

She changes the rest back to pounds.

$$\text{€}770 - \text{€}596 = \text{€}174$$

The exchange rate is now **£1 : €1.2**

$$\text{€}174 \div 1.2 = \text{£}145$$

How much, in pounds, does she get back?

End of the lesson

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Well done for completing the lesson.



Reflections

A large, empty rounded rectangular box with a black border, intended for students to write their reflections.