

Ratio, Proportion and Rates of change – 2021/20 GCSE Mathematics Foundation**1. Nov/2021/Paper_J560/01/No.24**

Charlie invests £9000 at a rate of 0.7% per year compound interest.

Calculate the total amount of **interest** Charlie will have earned after 5 years.
Give your answer correct to the **nearest penny**.

£ [4]

2. Nov/2021/Paper_J560/01/No.25

Frankie and Taylor travel the same distance from town A to town B.

Frankie travels at an average speed of 52 kilometres per hour (km/h).

Taylor travels at an average speed of 15 metres per second (m/s).

The journey takes Frankie 4 hours.

Calculate how long the journey takes Taylor.

Give your answer in hours and minutes, correct to the **nearest minute**.

You must show your working.

..... hours minutes **[6]**

3. Nov/2021/Paper_J560/02/No.9

A shopper buys 4 apples costing 60p each and 3 peaches.
 They pay with a £5 note and receive 44p in change.
 Each peach costs the same amount.

Work out the cost of one peach.
 You must show your working.

..... p [5]

4. Nov/2021/Paper_J560/02/No.10

Ben and Sundip are making pancakes using the ingredients below.

Ingredients to make 12 pancakes
75ml water
200ml milk
100g flour
50g butter
2 eggs

(a) The ratio of the amount of water to the amount of milk needed is 75 : 200.

Write this ratio in its simplest form.

(a) : [2]

- (b)** Ben makes 18 pancakes.

Work out how much flour he needs.

(b) g **[2]**

- (c)** Sundip has 225g of butter and 10 eggs.
She has plenty of the other ingredients.

Work out the maximum number of pancakes that she can make.

(c) **[4]**

5. Nov/2021/Paper_J560/03/No.15

Azmi, Beth and Callum share a flat.

- (a) The monthly rent is £760.
They share the rent in the ratio 2 : 3 : 3.

How much does Beth pay for rent each month?

(a) £ [2]

- (b) Azmi, Beth and Callum also share the fuel bill in the ratio 2 : 3 : 3.
Callum pays £36 for fuel each month.

How much does Azmi pay for fuel each month?

(b) £ [2]

6. Nov/2021/Paper_J560/03/No.19

(a) Amit says

My normal typing speed is 40 words per minute.
Therefore, I estimate that my normal typing speed is about 210 characters per minute.

Each letter, space and piece of punctuation counts as a character.

How many letters per word is Amit most likely to have used in making the estimate?
Show how you decide.

(a) [3]

(b) Amit starts some homework at their normal typing speed.
Amit types 52 words in 1 minute 12 seconds.

What may be true about the length of the words that Amit has just typed?
Show how you decide.

.....
..... [3]

7. Nov/2021/Paper_J560/03/No.23

A bag of sweets contains jellies, mints and toffees.

The ratio of jellies to mints is $n : 2$.

The ratio of mints to toffees is $5 : 3n$.

Work out the ratio of jellies to toffees.

Give your answer in its simplest form.

..... : [4]

8. Nov/2020/Paper_J560/01/No.7

- (a) Divide 72 in the ratio 4 : 5.

(a) : [2]

- (b) In one year, Clara and Dave borrowed books from a library in the ratio 3 : 7.
Dave borrowed 35 books.

Work out the number of books borrowed by Clara.

(b) [2]

9. Nov/2020/Paper_J560/02/No.6

Clara travels from her home to Stoke.

The distance from her home to Stoke is 100 miles.
She travels at an average speed of 50 miles per hour.
She stops for 20 minutes on the journey.

Clara arrives in Stoke at 10:10 am.

At what time did she leave home?

..... [4]

10. Nov/2020/Paper_J560/02/No.11

Theo invests £500 at a rate of 6% per year simple interest.

(a) Work out the interest he receives in one year.

(a) £ [2]

(b) Work out the value of his investment after 5 years.

(b) £ [2]

11. Nov/2020/Paper_J560/02/No.9

Write each of the following ratios in their simplest form.

(a) 12 : 15

(a) : [1]

(b) 600g : 1.8kg

(b) : [3]

12. Nov/2020/Paper_J560/03/No.10

Sundip is going on holiday.
She wants to change £400 into euros(€).

Bank A will change her £400 into €452.

Bank B changed £250 into €280 for Sundip's friend.
It will use the same rate to change Sundip's £400 into euros.

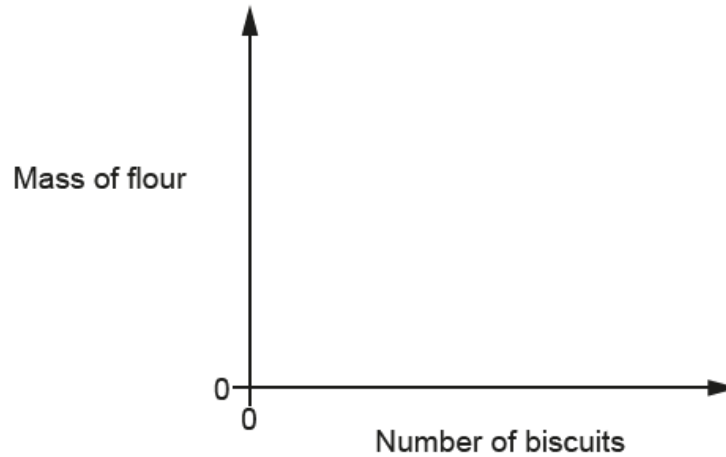
At which bank will Sundip receive the most euros and by how many?
Show your working.

At Bank Sundip will receive € more **[5]**

13. Nov/2020/Paper_J560/03/No.13

- (a) The mass of flour used in a recipe doubles as the number of biscuits made doubles.

On the axes below, sketch a graph to show this relationship.



[2]

- (b) Here are some of the ingredients for a recipe to make 10 biscuits.

To make 10 biscuits:

120g butter

100g sugar

Jane followed the recipe and used 432 g of butter.
All of the sugar used came from a new 2 kg bag.

- (i) Find the number of biscuits she made.

(b)(i) [3]

(ii) Find the mass of the sugar, in grams, that Jane has left in the bag.

(ii) g [3]