

Non-calculator Questions

NCFE

1.

Linda knows the ratio of staff to dogs needs to be 1 : 15

How many staff will she need for 30 dogs?

[1 mark]

Your answer:

City & Guilds

2.

A sandwich shop owner makes 1 sandwich with brown bread for every 4 sandwiches he makes with white bread.

Today he needs to make 600 sandwiches altogether.

How many sandwiches should he make with brown bread today?

 sandwiches

(1 mark)

3.

A manager wants to know the ratio of men to women in their factory. There are 135 men and 270 women working at the factory.

What is the ratio of men to women?

:

(2 marks)

Level 1 Ratio and Proportion Exam Questions

Highfield

4.

The table below shows the total spending of the charity in the last year.

Area spent	Proportion
Wages	24.15%
Fund raising	11.35%
Advertising	5%
Other	17.55%
Overheads	

Calculate the proportion of money spent on overheads.

Show your working out and write the answer in the box below.

(2 marks)

Answer: _____ %

5.

Diana wins a prize of £95.50

Diana and Billy share the prize in the ratio 4:1

How much do they each get?

Show your working out and write the answer in the box below.

(3 marks)

Answer: Diana £ _____ Billy £ _____

Open Awards

6.

There is a ratio of 6:1 red marbles to white marbles.

There are 42 red marbles in total. How many white marbles are there? (1 mark)

Show your calculations and/or workings out here:

Write your answer in this box.

AQA

7.

It will take 48 hours of work to complete the garden.

The garden must be finished in 3 days.

Each gardener works for 8 hours per day.

How many gardeners are needed?

[2 marks]

Answer _____

8.

Carly is shopping for things for her son's birthday party.

Carly is buying paper plates and paper cups.

Plates cost £1.50 for a pack of 8

Cups cost £1.20 for a pack of 6

Carly wants 40 plates and 24 cups.

Carly says,

"The total cost will be less than £12"

Is she correct?

You **must** show your working.

[5 marks]

9.

Carly makes a drink by mixing orange juice and water in the ratio 1 : 6

She uses 2 litres of orange juice.

How many litres of the drink does she make?

[2 marks]

Answer _____

Calculator Questions

Edexcel

1.

Penny is the manager of a nursery for pre-school children.

She knows that the ratio of the number of adults to the number of children must be 1 : 8

Penny has 56 children at the nursery.

(a) Work out the number of adults Penny needs for 56 children.

(2)



(b) Use a reverse calculation to show a check of your answer.

(1)

2.

Emily is making sausage rolls for a party.

She has this list of ingredients.

ingredients for 4 sausage rolls	
450 g	sausage meat
1	egg
1	red onion
250 g	ready-made pastry

Emily wants to make 75 sausage rolls for the party.

ready-made pastry comes in packs.

There are 500g of pastry in each pack.

Emily thinks 9 packs of ready-made pastry is the smallest number she needs to make 75 sausage rolls.

Is Emily correct?
Show why you think this.

(4)

NCFE

3.

John asks his customers to rate the café.

- The customers give four times as many **good** ratings as **excellent** ratings.
- The customers also give three times as many **excellent** ratings as **satisfactory** ratings.

60 customers rated the café as good.

How many customers rated the café as satisfactory?

[2 marks]

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Your answer:

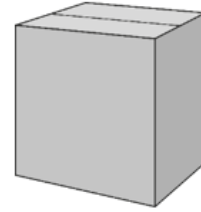
customers

4.

Natalie packs children's clothes into boxes.

Each box is a cube with side lengths of 50 cm

The clothes weigh 350 grams (g) per 500 cm^3



Calculate the weight of the clothes in each box when the box is full.

Give your answer in kg

[4 marks]

Handwritten answer area containing the text "Fast paper" as a watermark.

Your answer:

kg

5.

The volunteers are going to help children in a home.

The ratio of boys to girls in the home is 1 : 3

There are 80 children in total.

75% of the boys and 40% of the girls are under 10

How many boys and how many girls are under 10?

[4 marks]

Your answer:	
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Boys:

Girls:

6.

It is important that reptiles are given the correct diet.

The calcium : phosphorus weight ratio in their food should be close to 2 : 1

The table shows the weight in milligrams (mg) of calcium and phosphorus in one scoop of food.

		Calcium	Phosphorus
Food	Watermelon	36 mg	9 mg
	Cauliflower	160 mg	80 mg

Which food has the better calcium : phosphorus ratio for reptiles?
Show your working.

[2 marks]

Your answer:

7.

A charity asks people to donate 40p a day to sponsor rooms for people sleeping rough.

The charity hopes to raise 1 million pounds a year through these donations.

How many people would have to donate 40p **a day** to raise at least £1 000 000 for the charity in **a year**?

Use the conversion: 365 days = 1 year

[3 marks]

Your answer:	
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8.

This is Reg's cake recipe.

Basic Cake Recipe for 20 × 20 × 8 cm square tin
220 grams butter or soft margarine
220 grams caster sugar
4 eggs, lightly beaten
220 grams self-raising flour, sifted

The dinosaur cake tin that Reg wants to use has a capacity of 2.4 litres.

1 millilitre (ml) = 1 cm³

If Reg uses the dinosaur tin, how many grams (g) of butter will he need?

[4 marks]

Blank area for working out the solution.

Your answer:

g

City & Guilds

9.

Dave and Sue are community centre workers.

They share the opening of the centre each day.

Their manager shares this work out between Dave and Sue in the ratio 3:1

She makes this rota for the first 16 days of the month.

	Name		Name
Day 1	Dave	Day 9	Dave
Day 2	Dave	Day 10	Sue
Day 3	Dave	Day 11	Dave
Day 4	Dave	Day 12	
Day 5	Dave	Day 13	
Day 6	Dave	Day 14	
Day 7	Dave	Day 15	
Day 8	Dave	Day 16	

She needs to complete the rota for the next 5 days.

Complete the rota

Show your working

(3 marks)

Level 1 Ratio and Proportion Exam Questions

Highfield

10.

Sarah and Ali share £352 in the ratio 1:3

How much is Sarah's share?

Write the answer in the box below.

(1 mark)

Answer: £ _____

11.

There are six hundred thousand people living in Coventry and Wolverhampton combined.

The populations are split in the ratio 7:5.

How many people live in Wolverhampton?

Show your working out and write the answer in the box below.

(3 marks)

Answer: _____

Level 1 Ratio and Proportion Exam Questions

12.a)

Jack and Billy share £210 in the ratio 1:5.

How much does Billy get?

Show your working out and write the answer in the box below.

(2 marks)

Answer: £ _____

b)

Show how you could check your answer to question 12a.

Show your working out and write the answer in the box below.

(1 mark)

Open Awards

13.

Jared owns a bakery. He receives an order for party cakes to serve 72 people. He has this list of ingredients:

Party Cake Ingredients

(Serves 12 people)

400g flour

400g butter

375g sugar

6 eggs

Jared has $2\frac{3}{4}$ kg of flour.

How much flour will Jared have left over if he bakes enough cakes for everyone at the party? Give the units in your answer. (4 marks)

Show your calculations and/or workings out here:

Write your answer in this box.

AQA

14.

Jack will exchange some English pounds for Turkish lira.

£1 = 7.38 Turkish lira

Jack says,

“I want 6500 Turkish lira to take on holiday.”

Work out the number of pounds Jack will need to exchange for Turkish lira.

Give your answer correct to the nearest pound.

[2 marks]

Answer £ _____

15.

At a climbing centre there must be at least 1 member of staff for every 7 climbers.

There are 6 members of staff for one session.

23 climbers have booked for this session.

Work out how many **more** climbers can book for this session.

[3 marks]

Answer _____

16.

Brandon works in a bakery.

Brandon uses scone mix to make scones.

He needs 360 g of scone mix to make 8 scones.

Brandon

wants to make 40 scones

has 200 g of scone mix.

How much **more** scone mix does he need?

[3 marks]

Answer _____ g