

Proportion

Mark Scheme

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	Proportion
Grade Level	Grade 3
Booklet	Mark Scheme

Time Allowed: 33 minutes

Score: /27

Percentage: /100

Grade Boundaries:

1. Here is a list of ingredients for making 10 Flapjacks.

Ingredients for 10 Flapjacks	
80 g	rolled oats
60 g	butter
30 ml	golden syrup
36 g	light brown sugar

5 Flapjacks
40 g
30 g
15 ml
18 g

Work out the amount of each ingredient needed to make 15 Flapjacks.

$\times 1.5$

.....120..... g rolled oats
.....90..... g butter
.....45..... ml golden syrup
.....54..... g light brown sugar

(Total 3 marks)

2. Fred has a recipe for 30 biscuits.

Here is a list of ingredients for 30 biscuits.

Self-raising flour : 230g
Butter : 150g
Caster sugar : 100g
Eggs : 2

15 biscuits

115
75
50
1

Fred wants to make 45 biscuits.

- (a) Complete his new list of ingredients for 45 biscuits.

Self-raising flour : 345g...
Butter : 225g...
Caster sugar : 150g...
Eggs : 3...
(3)

Gill has only 1 kilogram of self-raising flour. She has plenty of the other ingredients.

- (b) Work out the maximum number of biscuits that Gill could bake.

$$\begin{aligned} 230g &= 30 \text{ biscuits} \\ \frac{230}{30}g &= 1 \text{ biscuits} \\ 7\frac{2}{3}g &= 1 \text{ biscuit.} \end{aligned}$$

$$\begin{aligned} \frac{230g}{23} &= 30 \text{ biscuits} \\ \frac{100g}{23} &= \frac{30}{23} \text{ biscuits} \\ \frac{1000g}{23} &= \frac{3000}{23} \text{ biscuits} \end{aligned}$$

$$23 \overline{) 3000.000}$$

130.....
(3)

(6 marks)

3. Here are the ingredients needed to make 16 gingerbread men.

Ingredients to make 16 gingerbread men		8
180 g	flour	90
40 g	ginger	20
110 g	butter	55
30 g	sugar	15

Hamish wants to make 24 gingerbread men.
Work out how much of each of the ingredients he needs.

.....270.....g flour
.....60.....g ginger
.....165.....g butter
.....45.....g sugar

(3 marks)

4. Here are the ingredients needed to make 12 shortcakes.

Shortcakes	
Makes 12 shortcakes	
50 g	of sugar
200 g	of butter
200 g	of flour
10 m/	of milk

Liz makes some shortcakes.
She uses 25 m/ of milk.

- (a) How many shortcakes does Liz make?

$$\frac{25}{10} = 2.5 \quad 12 \times 2.5$$

30

(2)

Robert has 500 g of sugar
1000 g of butter
1000 g of flour
500 m/ of milk

- (b) Work out the greatest number of shortcakes Robert can make.

$$\begin{aligned} \text{Sugar: } & \frac{500}{50} \times 12 = 120 \\ \text{Butter: } & \frac{1000}{200} \times 12 = 60 \\ \text{Flour: } & \frac{1000}{200} \times 12 = 60 \\ \text{Milk: } & \frac{500}{10} \times 12 = 600 \end{aligned}$$

60

(2)

(4 marks)

5. Here is a list of ingredients for making 12 small cakes.

Ingredients for 12 small cakes

180 g margarine

180 g sugar

200 g plain flour

1 teaspoon baking powder

2 eggs

Joe is going to make 24 of the small cakes.

- (a) Work out how much margarine he needs.

(2)

$\times 2$

.....360..... g

Sharon is going to make 18 of the small cakes.

- (b) Work out how much flour she needs.

(2)

200 + 100

.....300..... g
(Total for Question 4 = 4 marks)

*6. This is a list of ingredients for making a pear & almond crumble for 4 people.

Ingredients for 4 people:	4 people	2 people
80 g plain flour	80	40
60 g ground almonds	30 60	30
90 g soft brown sugar	45 90	45
60 g butter	60	30
4 ripe pears	4	2

Jessica wants to make a pear & almond crumble for 10 people.

Here is a list of the amount of each ingredient Jessica has in her cupboard.

250 g plain flour
100 g ground almonds
200g soft brown sugar
150 g butter
8 ripe pears

Work out which ingredients Jessica needs to buy more of.

You must show all of your working.

She Needs

Flour: 200g ✓
Almonds: 150g (50g)
Sugar: 225g (25g)
Butter: 150g ✓
Pears: 10 (2)

She needs to buy : 50g Almonds
: 25g Sugar
: 2 pears.

(4 marks)

*7. 225 grams of flour are needed to make 9 cakes.

Marian wants to make 20 of these cakes.
She has 475 grams of flour.

Does Marian have enough flour to make 20 cakes?
You must show all your working.

$$225g = 9 \text{ cakes}$$

$$25g = 1 \text{ cake}$$

$$500g = 20 \text{ cakes}$$

Marian does not have enough flour. She
needs ^{another} 25g.

(3 marks)
