Name ANSWERS	Class

MATHS TEACHER HUB

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Recipes

(9 – 1) Topic booklet

Foundation

These questions have been collated from previous years GCSE Mathematics papers.

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must **show all your working out.**
- If the question is a **1F** question you are not allowed to use a calculator.
- If the question is a **2F** or a **3F** question, you may use a calculator to help you answer.

Information

- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Answer ALL questions
Write your answers in the space provided.
You must write down all the stages in your working.

10 Here are the ingredients needed to make 20 peanut butter cookies.

Makes 20 cookies
250 g peanut butter
200 g sugar
2 small eggs

×3

60 cookies
750g peanut butter

Derek wants to make 60 cookies.

He has 900 g of peanut butter.

Does Derek have enough peanut butter to make 60 cookies?
You must show how you get your answer.

Yes Derek has enough
900 > 750

(Total for Question 10 is 3 marks)

15 Here is a list of ingredients for making chocolate mousse for 2 people.

Chocolate mousse
for 2 people

40 grams sugar
110 grams dark chocolate
2 eggs
$\frac{1}{4}$ teaspoon lemon juice

Ellie has 250 grams of sugar and 550 grams of dark chocolate.
She assumes that she has plenty of lemon juice and plenty of eggs.

(a) What is the greatest number of people Ellie can make chocolate mousse for?
You must justify your answer.

$\frac{250}{40} \times 2 = 12.5$

$= 12$ people

$\frac{550}{110} \times 2 = 10$

$= 10$ people

Ellie has enough ingredients to make chaolate mousse for 10 people

(3)

Ellie only has 6 eggs.

(b) What effect would this have on the greatest number of people Ellie can make chocolate mousse for?

Yes, 6 eggs means only 6 mousses.

(1)

(Total for Question 15 is 4 marks)

16 Here is the list of ingredients for making 20 biscuits.

x3

Ingredients for 20 biscuits
150 g butter 100 g sugar 250 g flour

60 biscuits

450g butter
300g sugar
750g flour

Harry wants to make 60 biscuits.

How much flour does Harry need?

750 g

(Total for Question 16 is 2 marks)

17 Here are the ingredients needed to make 20 shortbread biscuits.

Ingredients for 20 shortbread biscuits	
120 g	of butter
200 g	of flour
50 g	of sugar

Heidi wants to make 30 shortbread biscuits.

How much of each ingredient will Heidi need?

Divide all ingredients by 2, then multiply by 3

$\frac{120}{2} \times 3 = 180$

$\frac{200}{2} \times 3 = 300$

$\frac{50}{2} \times 3 = 75$

butter 180 g

flour 300 g

sugar 75 g

(Total for Question 17 is 3 marks)

17 Heidi wants to make some biscuits using this recipe.

Makes 12 biscuits
125 g butter 200 g flour 50 g sugar

Heidi thinks that she has,

500 g butter
700 g flour
250 g sugar

Assuming that these weights are correct,

(a) work out the greatest number of biscuits Heidi can make.
You must show all your working.

Butter $\frac{500}{125} = 4$ $4 \times 12 = 48$ biscuits

Flour $\frac{700}{200} = 3.5$ $3.5 \times 12 = 42$ biscuits

Sugar $\frac{250}{50} = 5$ $5 \times 12 = 60$ biscuits

Heidi has enough to make 42 biscuits

(4)

Heidi is wrong.
She has more than 250 g of sugar.

(b) Does this affect the greatest number of biscuits Heidi can make?
Give a reason for your answer.

No she still only has enoug flour for 42 biscuits

(1)

(Total for Question 17 is 5 marks)

17 Here is the list of ingredients for making 30 biscuits.

Ingredients for 30 biscuits
225 g butter
110 g caster sugar
275 g plain flour
75 g chocolate chips

Lucas has the following ingredients.

900 g butter
1000 g caster sugar
1000 g plain flour
225 g chocolate chips

What is the greatest number of biscuits Lucas can make?
You must show your working.

Flour $\frac{1000}{275} \times 30 = 109$

Choc chips $\frac{225}{75} \times 30 = 90$

Butter $\frac{900}{225} \times 30 = 120$

Sugar $\frac{1000}{110} \times 30 = 272.7$

90

(Total for Question 17 is 3 marks)

18 Here is a list of ingredients for making 10 scones.

÷2 ← | → ×2

5 scones
37.5g
175g
20g
75ml
1 egg

Ingredients for 10 scones

75 g	butter
350 g	self-raising flour
40 g	sugar
150 ml	milk
2	eggs

20 scones
150g
700g
80g
300ml
4 eggs

Mia wants to make 25 scones.
Work out how much sugar she needs.

25 scones
187.5g butter
875g flour
100g sugar
375ml milk
5 eggs

100 g

(Total for Question 18 is 2 marks)

18 Here is a list of ingredients for making 16 mince pies.

Ingredients for 16 mince pies
240 g of butter
350 g of flour
100 g of sugar
280 g of mincemeat

$\frac{72}{16} = 4.5$

Elaine wants to make 72 mince pies.

How much of each ingredient will Elaine need?

$240 \times 4.5 = 1080$

$350 \times 4.5 = 1575$

$100 \times 4.5 = 450$

$280 \times 4.5 = 1260$

butter 1080 g

flour 1575 g

sugar 450 g

mincemeat 1260 g

(Total for Question 18 is 3 marks)

19 Here are the ingredients needed to make 16 biscuits.

Biscuits
Ingredients to make **16** biscuits
175 g of butter 75 g of sugar 250 g of flour

Anna has

500 g of butter
300 g of sugar
625 g of flour

Work out the greatest number of biscuits Anna can make.

Butter $\frac{500}{175} \times 16 = 45.7$ biscuits

Sugar $\frac{300}{75} \times 16 = 64$ biscuits

flour $\frac{625}{250} \times 16 = 40$ biscuits

40

(Total for Question 19 is 3 marks)

19 Here is a list of ingredients for making 16 flapjacks.

÷2

8

60g
70g
125g
1tbs

Ingredients for 16 flapjacks

120 g butter
140 g brown sugar
250 g oats
2 tablespoons syrup

Jenny wants to make 24 flapjacks.

Work out how much of each of the ingredients she needs.

60 + 120 = 180

70 + 140 = 210

125 + 250 = 375

1 + 2 = 3

butter ..... 180 ..... g

brown sugar ..... 210 ..... g

oats ..... 375 ..... g

syrup ..... 3 ..... tablespoons

(Total for Question 19 is 3 marks)

19 Jane made some almond biscuits which she sold at a fete.

She had:
5 kg of flour
3 kg of butter
2.5 kg of icing sugar
320 g of almonds

Here is the list of ingredients for making 24 almond biscuits.

Ingredients for 24 almond biscuits
150 g flour 100 g butter 75 g icing sugar 10 g almonds

Jane made as many almond biscuits as she could, using the ingredients she had.

Work out how many almond biscuits she made.

Flour $\frac{5000}{150} \times 24 = 800$ biscuits

Butter $\frac{3000}{100} \times 24 = 720$ biscuits

Icing $\frac{2500}{75} \times 24 = 800$ biscuits

Almonds $\frac{320}{10} \times 24 = 768$ biscuits

720

(Total for Question 19 is 3 marks)

20 Here is a list of ingredients for making 10 scones.

x 2.5

Ingredients for 10 scones
80 g butter
350 g self-raising flour
30 g sugar
2 eggs

25

200g butter
875g flour
75g sugar
5 eggs

Martin has

100 g butter
1 kg self-raising flour
50 g sugar
4 eggs

Martin wants to make 25 scones.
He has not got enough of some of the ingredients.

Work out how much more of each of these ingredients he needs.

Martin needs 100g more butter, and 25g more sugar, and 1 more egg.

(Total for Question 20 is 4 marks)

23 Deon needs 50 g of sugar to make 15 biscuits. ×4 → 60 biscuits

She also needs

three times as much flour as sugar
two times as much butter as sugar

Deon is going to make 60 biscuits.

(a) Work out the amount of flour she needs.

150g flour
100g butter

150g × 4 = 600

600 g

(3)

Deon has to buy all the butter she needs to make 60 biscuits.
She buys the butter in 250 g packs.

(b) How many packs of butter does Deon need to buy?

100g × 4 = 400g

2 packs

(2)

(Total for Question 23 is 5 marks)