

# Direct and Inverse Proportion

## November 2023 Paper 1

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

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.

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**(Total for Question 10 is 3 marks)**

## June 2023 Paper 1

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

Ingredients for 20 biscuits

150 g butter

100 g sugar

250 g flour

Harry wants to make 60 biscuits.

How much flour does Harry need?

..... g

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**(Total for Question 16 is 2 marks)**

## November 2022 Paper 2

- 16** Water flows through each of the pipes that fill a lake at the same rate.  
It takes 4 of the pipes 12 hours to fill the lake.

Work out how many hours it would take 6 pipes to fill  $\frac{1}{4}$  of the lake.

..... hours

**(Total for Question 16 is 3 marks)**

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

<b>Ingredients for 20 shortbread biscuits</b>	
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?

butter ..... g

flour ..... g

sugar ..... g

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**(Total for Question 17 is 3 marks)**

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

**Ingredients for 10 scones**

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

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

..... g

**(Total for Question 18 is 2 marks)**

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## November 2022 Paper 3

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

**Ingredients for 10 scones**

80 g butter  
350 g self-raising flour  
30 g sugar  
2 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.

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**(Total for Question 20 is 4 marks)**

## June 2023 Paper 3

**23** It takes 14 hours for 5 identical pumps to fill a water tank.

How many hours would it take 4 of these pumps to fill another water tank of the same size?

..... hours

**(Total for Question 23 is 2 marks)**

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## November 2023 Paper 3

25 A company orders a large number of plates from a factory.

It would take 30 hours to make all the plates using 4 machines.

How many machines are needed to make all the plates in 6 hours?

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**(Total for Question 25 is 2 marks)**