

Direct and Inverse Proportion

ANSWERS

Calculator | 30 minutes | Total marks: 23

Name Class

1 3 pens cost £1.20

(a) Work out the cost of 1 pen.

Answer 40 (1) p [1 mark]

(b) Work out the cost of 7 pens.

Answer £ 2.80 (1) [1 mark]

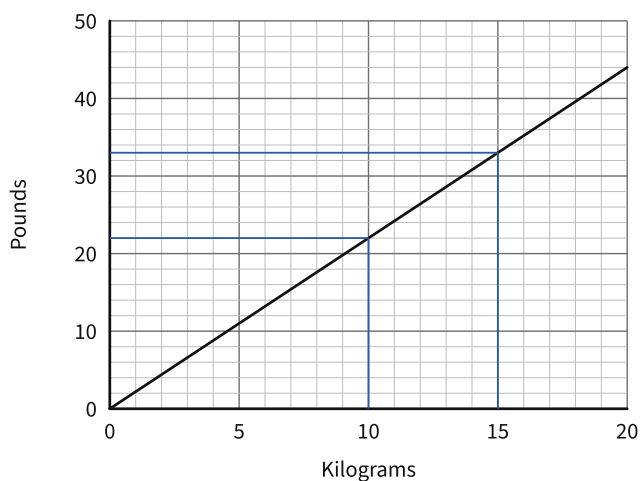
2 Here are the ingredients for 4 smoothies.

Complete the table for 12 smoothies.

Ingredient	4 smoothies	12 smoothies
Milk	200 ml	<u>600 ml (1)</u>
Bananas	2	<u>6 (1)</u>
Berries	120 g	<u>360 g (1)</u>

[3 marks]

3 You can use this graph to change between kilograms and pounds.



(a) Change 10 kilograms into pounds.

Answer 22 (1) pounds [1 mark]

(b) Change 33 pounds into kilograms.

Answer 15 (1) kg [1 mark]

(c) Change 40 kilograms into pounds.

20 kg = 44, so 44 × 2 (1)

Answer 88 (1) pounds [2 marks]

4

2 people take 6 hours to paint a fence.

(a) How long would it take 1 person to paint the fence?

Answer 12 (1) hours [1 mark]

(b) How long would it take 4 people to paint the fence?

Answer 3 (1) hours [1 mark]

5

$$y = 4x$$

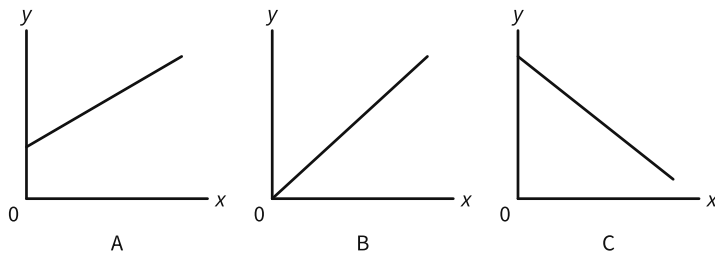
Complete the table.

x	1	2	5	10 (1)
y	4	8 (1)	20 (1)	40

[3 marks]

6

Here are three sketch graphs.



(a) Which graph shows that y is directly proportional to x ?

Answer B (1) [1 mark]

(b) Give a reason for your answer.

It is a straight line through the origin (1)

[1 mark]

7

A journey takes 4 hours at a speed of 30 mph.

How long does the same journey take at a speed of 60 mph?

twice as fast, so half the time (1)

Answer 2 (1) hours [2 marks]

8 y is directly proportional to x .

When $x = 2, y = 10$

(a) Work out the value of y when $x = 6$

6 is 3 lots of 2, so 10×3 (1)

$y =$ 30 (1) [2 marks]

(b) Complete the formula. $y =$ 5 x (1)

[1 mark]

9 $x \times y = 24$

Complete the table.

x	2	3	6
y	12	8 (1)	4 (1)

[2 marks]

Question	Topic	RAG
1	I can find the cost of one and use it	
2	I can scale a recipe	
3	I can use a conversion graph	
4	I can solve a simple inverse proportion problem	
5	I can use a direct proportion formula	
6	I can recognise a graph of direct proportion	
7	I can use inverse proportion with speed and time	
8	I can find values when y is directly proportional to x	
9	I can use an inverse proportion rule	