



THIRD SPACE
LEARNING

Mathematics

Paper 3

(Calculator)

Foundation Tier

OCR GCSE

SET 3

Mathematics Paper 3 (Calculator) Foundation Tier OCR

GCSE SET 3

Name

Total marks

Paper length: 1hr 30mins



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.
- You must show all your working.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- Calculators may be used.

Information

- The total mark for this paper is 100
- 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.

Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	

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

This practice paper is based on the topics from the **advanced information for the November 2024 exam series**.

Please note, this practice paper is an example to help revision, these topics can be tested in other ways and other topics may be included in the actual papers

- 1 (a) Write 35% as a fraction

(a) [1]

- (b) Work out $\frac{1}{4}$ of 24

(b) [1]

- (c) James asked some people what their favourite vegetable was.

$\frac{2}{5}$ of the people he asked said carrots.

14 people said carrots.

How many people did James ask?

(c) [2]

- 2 (a) On Tuesday, Mohammad works for 3 hours 20 minutes.

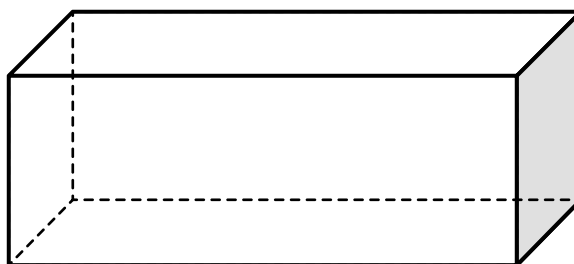
He starts at 8.15am. What time does he finish?

(a) [1]

- (b) Mohammad gets paid £12 per hour. How much does Mohammad earn on Tuesday?

(b) [2]

3 (a) Here is a 3D shape.



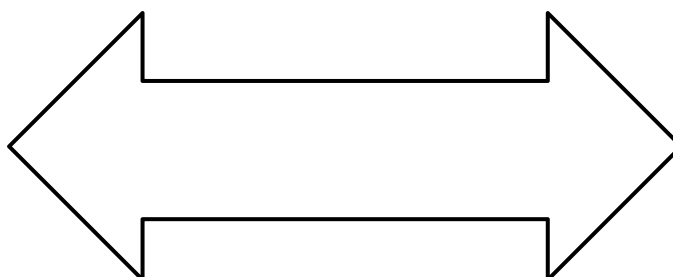
(i) Write down the name of the 3D shape.

(a)(i) **[1]**

(ii) Write down the number of vertices of the 3D shape.

(a)(ii) **[1]**

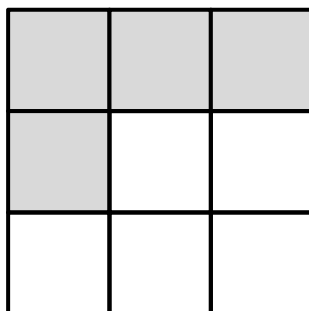
(b) Here is a 2D shape.



On the diagram, draw all of the shape's lines of symmetry.

[1]

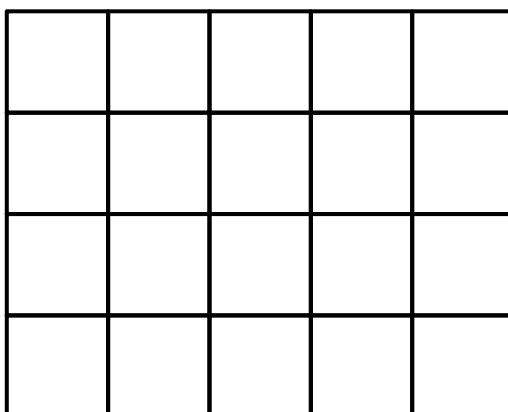
- 4 (a) Here is a 3D shape.



Write down the fraction of the squares which are shaded.

(a) [1]

- (b) Here is another grid of squares.



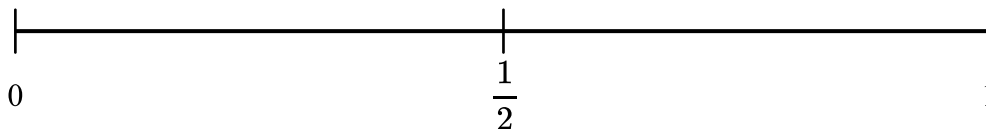
Shade some of the squares so that

Shaded squares : unshaded squares = 1 : 3

[1]

5 An ordinary dice is thrown.

- (a) On the probability scale below, mark with a cross (X) the probability the dice lands on a prime number.



[1]

- (b) Write down the probability that the dice lands on a number greater than 4.

(b) **[1]**

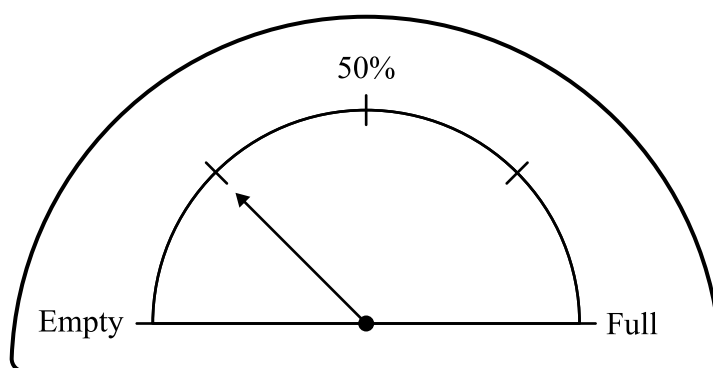
6 Gary buys a screwdriver for £35 and 3 boxes of screws for £4.99 each.

Gary pays with 3 £20 notes.

How much change does Gary get?

..... **[3]**

- 7 Here is the fuel gauge for a car.



The fuel tank holds 50 *litres* when it is full.

Work out how many *litres* of fuel are left in the tank.

..... *litres* [3]

- 8 (a) Work out the value of $\frac{500}{2.5 \times 8}$

(a) [1]

- (b) Write down the reciprocal of 3.

(b) [1]

9 Christine is choosing a gift for a friend from these gifts.

Category A	Category B
Biscuits (B)	Mug (M)
Chocolates (C)	Plant (P)
	Slippers (S)

Christine chooses one gift from category A and one gift from category B.
Complete this list to show all of the possible gift combinations.

[2]

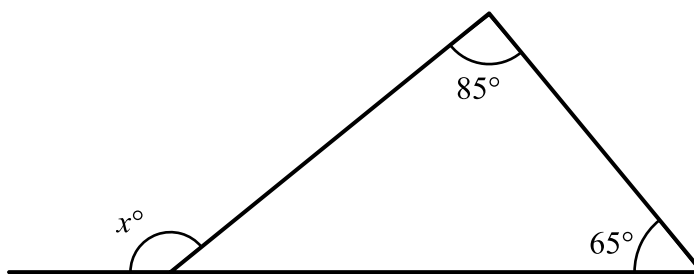
Category A	Category B
B	M

10 Jovy spends 2 weeks working on her project.
Olivia spends 18 days working on her project.

Write, in its simplest form, the ratio
time spent by Jovy:time spent by Olivia

[2]

- 11 Here is a triangle. One line is extended.



Work out the size of angle x .

.....[°] [2]

- 12 Pens are sold in small packs of 12 pens, medium packs of 18 pens or large packs of 25 pens. Freddie buys 6 small packs of pens, 5 medium packs of pens and some large packs of pens. In total Freddie buys 312 pens. Work out how many large packs of pens Freddie buys.

..... [3]

13 Here is some information about the minimum and maximum temperatures in Finland last year.

	Minimum	Maximum
January	−13°C	−6°C
June	6°C	

(a) The maximum temperature in June was 21°C warmer than the maximum temperature in January.

What was the maximum temperature in June?

(a) _____ °C [2]

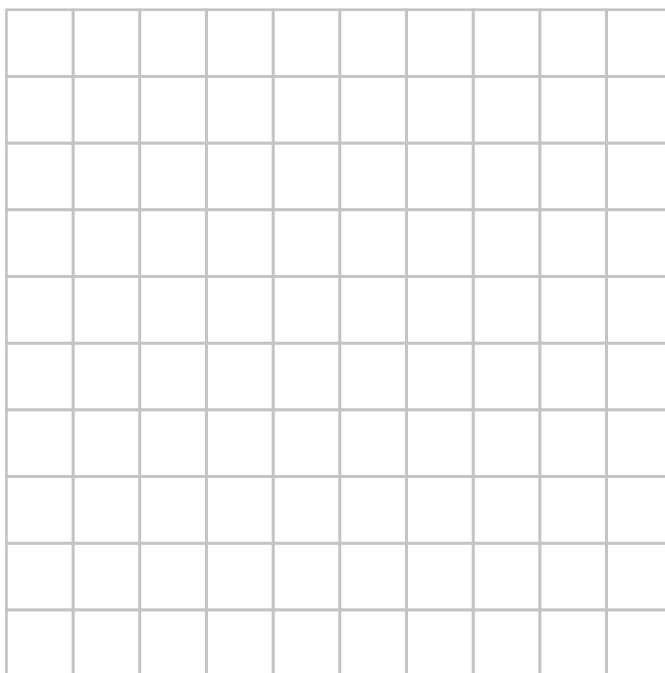
(b) Fiona visited Finland during 2023.
During her visit, the temperature was −10°C.
Did Fiona visit Finland in January or June?
Give a reason for your answer.

She visited in _____

Reason: _____

[2]

- 14 On the centimetre grid, draw a triangle with an area of 10cm^2



[2]

-
- 15 (a) Simplify $\frac{4p + 10}{2}$

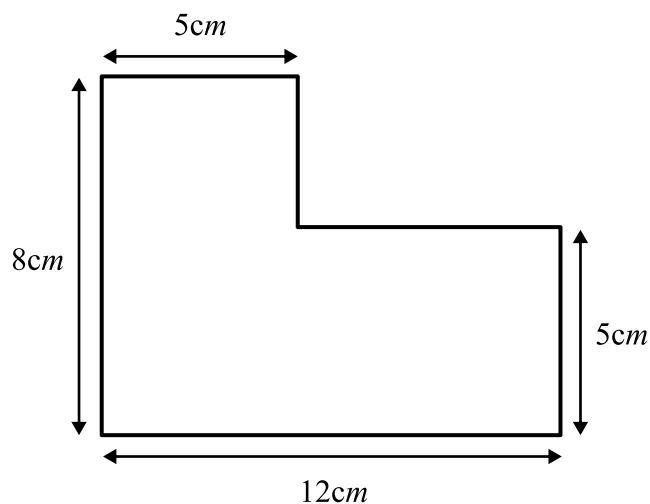
(a) [1]

(b) $P = a^2 - b$

Write down a pair of values for a and b which make P negative.

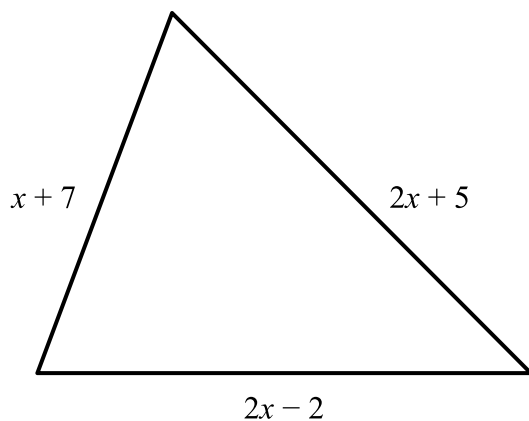
(b) $a =$ $b =$ [2]

16



(a) Work out the perimeter of this shape.

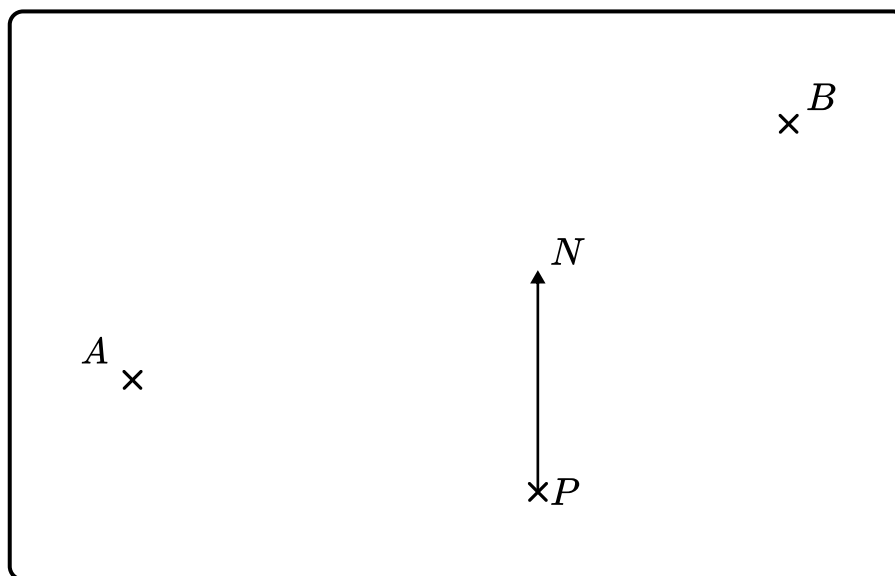
(a) cm [2]



(b) Write an expression, in terms of x , for the perimeter of this triangle.

(b) [2]

17 The accurately drawn map shows the positions of two airports, A and B , and a plane, P .



Scale: 1 cm represents 10 km

(a) How far is the plane from airport A ?

(a) [2]

(b) The plane needs to fly to airport B . Write down the bearing of airport B from the plane.

(b) [2]

18 Kai and Damian share some money in the ratio 2:7.

(a) What fraction of the money does Damian get?

----- [1]

(b) If Damian gets £30 more than Kai, what is the total amount of money they shared?

£ ----- [3]

19 Make P the subject of the formula $F = \frac{PQ}{12}$

----- [2]

20 Hamza is going on holiday.

He wants to change £400 into euros.

Hamza can exchange his money at two different travel agents.

Travel agent *A* has an exchange rate of £50 = €56

Travel agent *B* has an exchange rate of £1 = €1.14

Which travel agent will give Hamza the most euros and by how many?

Travel agent _____ will give Hamza € _____ more **[5]**

21 (a) Write 4739 correct to 2 significant figures.

..... **[1]**

(b) Write 0.00581 to 1 significant figure.

..... **[1]**

(c) The number, n , is rounded to the 1 decimal place.

The result is 5.3

Complete the error interval for n .

..... $\leq n <$ **[2]**

22 (a) Solve $4n + 5 = 3(2n - 7)$

(a) $n =$ **[3]**

(b) Solve $2p^3 = 250$

(b) $p =$ **[2]**

23 For each statement, complete the box to show the power of 10.

(a) (i) $1000 = 10^{\boxed{}}$

[1]

(ii) Ten million = $10^{\boxed{}}$

[1]

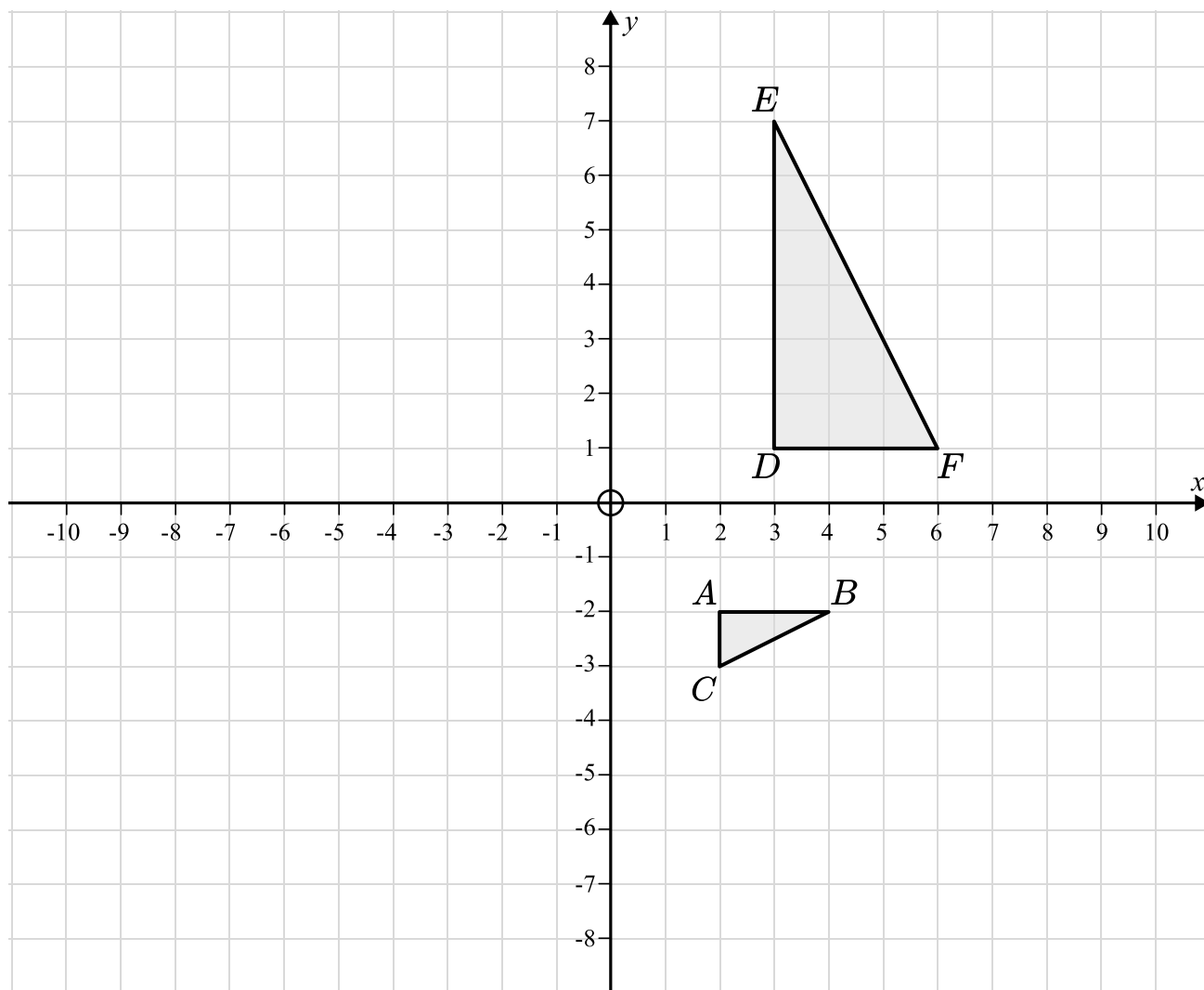
(iii) $0.001 = 10^{\boxed{}}$

[1]

(b) $0.35 \times 10^4 = 3.5 \times 10^{\boxed{}}$

[1]

24 Here are the triangles ABC and DEF .



(a) Rotate triangle ABC 90° anti-clockwise about $(0, -1)$.

[2]

(b) Describe fully the single transformation that maps triangle ABC onto triangle DEF .

[3]

25 The manager of a clothes shop records the size of the clothes sold one day.

8				
10	10	10		
12	12	12	12	12
14	14			
16	16	16		
18	18			

(a) Work out the mean size of the clothes sold that day.

----- [2]

(b) Emily says that the mean is not a very useful average.
Explain what Emily is correct.

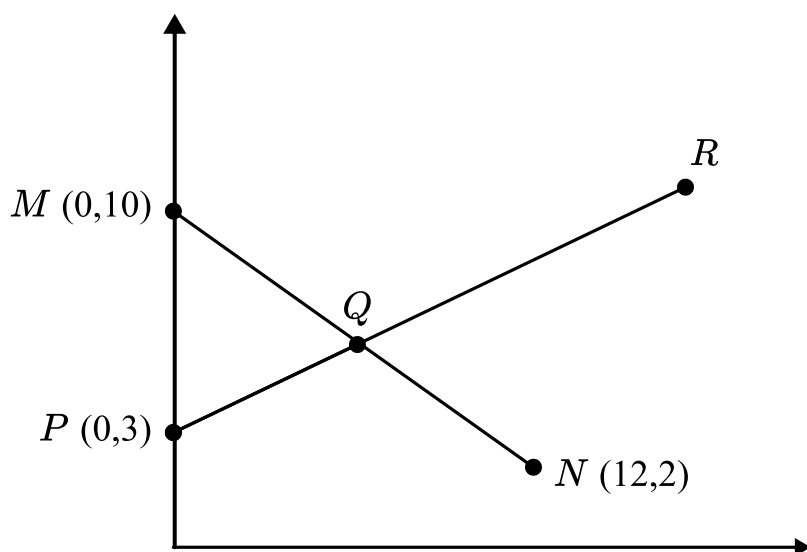
----- [1]

(c) Which average would be the most useful in this example? Explain why.

----- [2]

26 The point Q is the midpoint of the line MN .

The point Q lies on the line PR such that $PQ:QR = 1:2$.



Find the coordinates of the point R .

(..... ,) [3]

27 Peter invests £2000 in a savings account for 3 years.

He is paid compound interest at a rate of 4% per annum.

How much money does Peter have in his account at the end of the 3 years?

£ [3]

28 Find the highest common factor (*HCF*) of 48 and 64.

..... [2]

29 The speed limit in a village is changed from 30 *mph* to 20 *mph*.

Before the speed limit was changed, it took Beth five minutes to drive through the village.

(a) What distance does Beth travel through the village?

(a) [2]

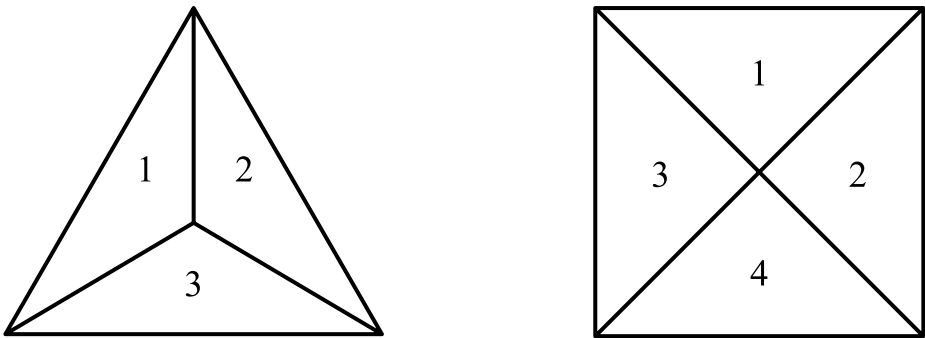
(b) Mark says that the journey will now take Beth one minute longer.

Is Mark correct?

Show how you decide.

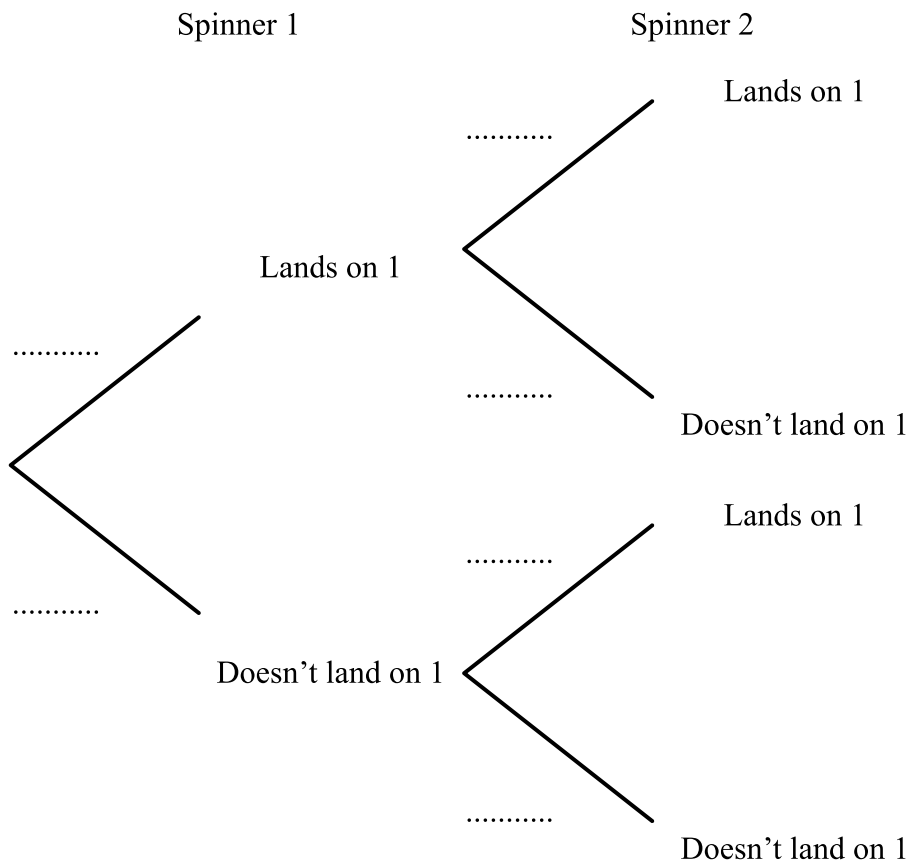
(b) [2]

30 Josh has 2 fair spinners.



He spins both spinners.

(a) Complete the tree diagram.



[2]

(b) Work out the probability that both spinners land on 1.

(b) [2]

- 31** The value of Richard's car has decreased by 12%.
The car now has a value of £8360.

Find the value of the car before the decrease.

----- [2]

Help ease the pressure with a personalised revision programme for each of your target KS4 students

Our one to one GCSE revision programme is designed to help your target students reach their potential in their GCSE maths exams.

Our specialist maths tutors work one to one with each student, focusing on securing core KS4 content and building familiarity with the kinds of questions they'll be tackling in their GCSE exams.

Get in touch today:

✉ hello@thirdspacelearning.com

🔍 thirdspacelearning.com

☎ 0203 771 0095