Instructions

Answers

✏️ This means write down your answer or show your working and your answer.
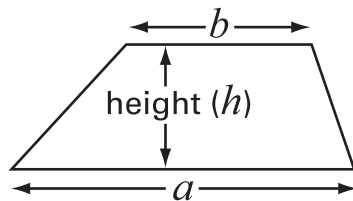
Calculators

You **must not** use a calculator in this test.

Formulae
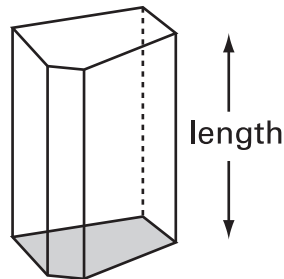
You might need to use these formulae.

Trapezium

$$\text{Area} = \frac{(a+b)}{2} \times h$$

Prism

length

Volume = area of cross-section × length

1.   Here is the 65 times table.

1	×	65	=	65
2	×	65	=	130
3	×	65	=	195
4	×	65	=	260
5	×	65	=	325
6	×	65	=	390
7	×	65	=	455
8	×	65	=	520
9	×	65	=	585
10	×	65	=	650

(a)   Use the 65 times table to help you fill in the missing numbers.

12   ×   65   = ...

. . . .
1 mark

20   ×   65   = ...

. . . .
1 mark

(b)   Use the 65 times table to help you work out 16 × 65

Show how you do it.

. . . .

16   ×   65   = ...

. . . .
2 marks

2. (a) The diagram shows spinner A and spinner B.

A   **B**
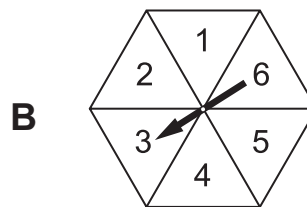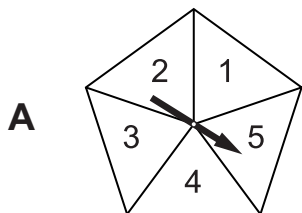
Which spinner gives you the best chance to get **1**?

Tick (✓) your answer.

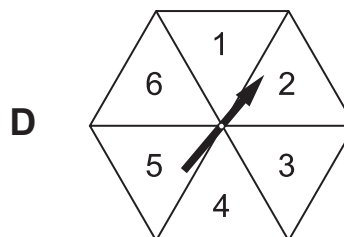✎   spinner A ☐   spinner B ☐   doesn't matter ☐
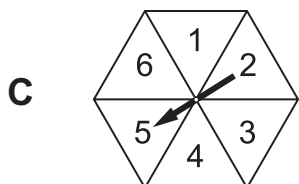
Explain **why** you chose that answer.

✎

1 mark

(b)   Here are two different spinners.

The spinners are the same shape but different sizes.

C   **D**

Which spinner gives you the best chance to get **3**?

Tick (✓) your answer.

✎   spinner C ☐   spinner D ☐   doesn't matter ☐
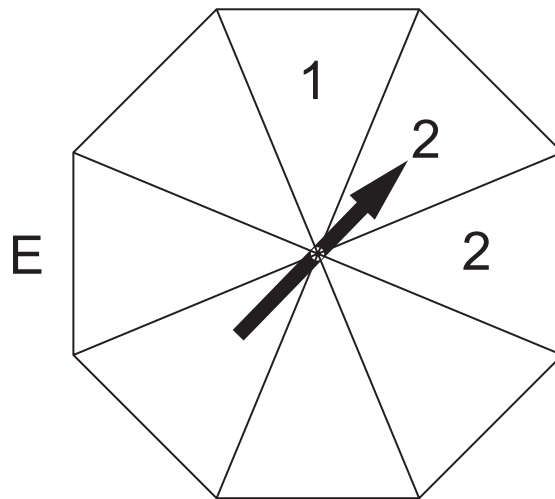
Explain **why** you chose that answer.

✎

1 mark

(c) Each section of spinner E is the same size.

Fill in numbers on spinner E so that **both** of
these statements are true.

It is **equally likely** that you will spin **3** or **2**

It is **more likely** that you will spin **4** than **2**
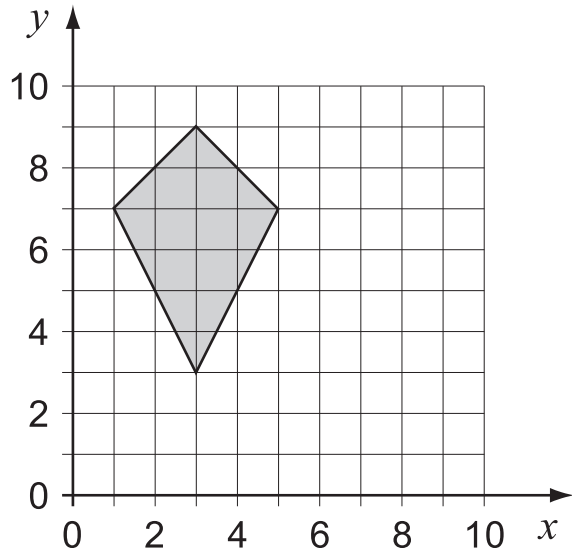
E

1

2

2

. . . .

. . . .
2 marks

3.   Look at the shaded shape.

(a) **Two** statements below are correct.

Tick the correct statements.

The shape is a **quadrilateral**. ☐

The shape is a **trapezium**. ☐

The shape is a **pentagon**. ☐

The shape is a **kite**. ☐

The shape is a **parallelogram**. ☐

1 mark
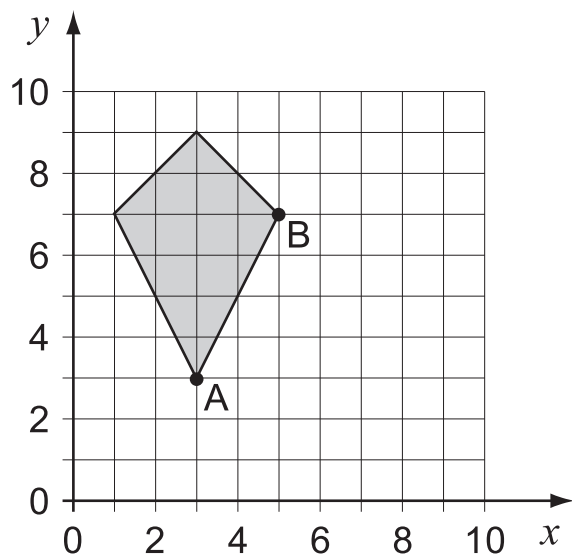
(b) What are the co-ordinates
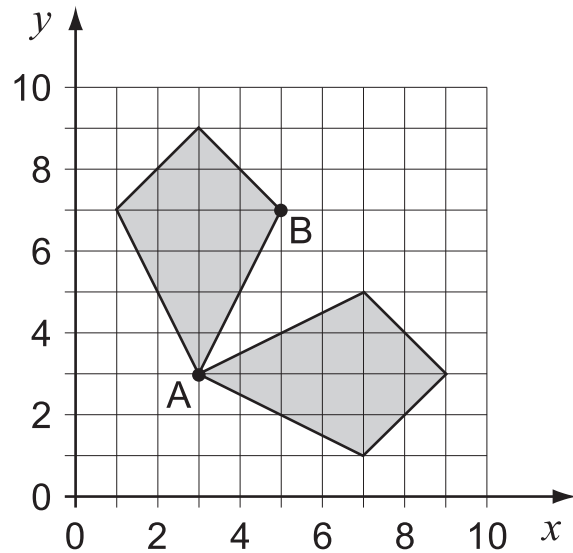of point **B**?

(,)

1 mark

(c)   The shape is **reflected** in a mirror line.

Point A stays in the same place.

Where is point **B** reflected to?

Put a cross on the grid to
show the correct place.

(d)   Now the shape is **rotated**.

Point A stays in the same place.

Where is point **B** rotated to?

Put a cross on the grid to
show the correct place.
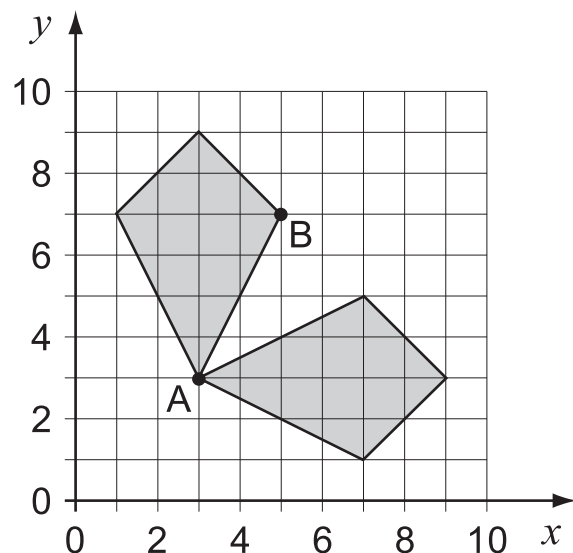
4. Mark and James have the same birthday.

They were born on 15th March in different years.

(a) Mark will be **12** years old on 15th March, **2001**

How old will he be on 15th March, **2010**?

. . . . years old

(b) In what year was Mark born?

. . . .

(c) James will be **half** of Mark's age on 15th March, 2001

In what year was James born?

. . . .

5. A pupil recorded how much rain fell on 5 different days.

Results:

	Amount in cm
Monday	0.2
Tuesday	0.8
Wednesday	0.5
Thursday	0.25
Friday	0.05

(a) Fill in the gaps with the correct day.

The **most** rain fell on . . . .

1 mark

The **least** rain fell on . . . .

1 mark

(b) How much **more** rain fell on Wednesday than on Thursday?

cm

1 mark

(c) How much rain fell altogether on **Monday**, **Tuesday** and **Wednesday**?

cm

1 mark

Now write your answer in millimetres.

mm

1 mark

6.   Look at these angles.
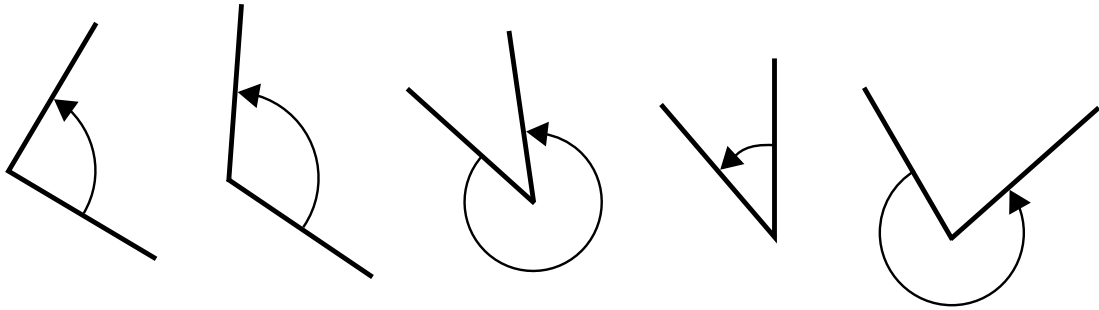
angle P   angle Q   angle R   angle S   angle T

(a)   One of the angles measures **120°**

Write its letter.

✏️   . . . .
                                            1 mark

(b)   Complete the drawing below to show an angle of **157°**

Label the angle 157°

✏️

_____   . . . .

                                            . . . .
                                            2 marks

(c) 15 pupils measured two angles.

Here are their results.

Angle A

Angle measured as	Number of pupils
36°	1
37°	2
38°	10
39°	2

Angle B

Angle measured as	Number of pupils
45°	5
134°	3
135°	4
136°	3

Use the results to decide what each angle is most likely to measure.

Angle **A** is . . . . °
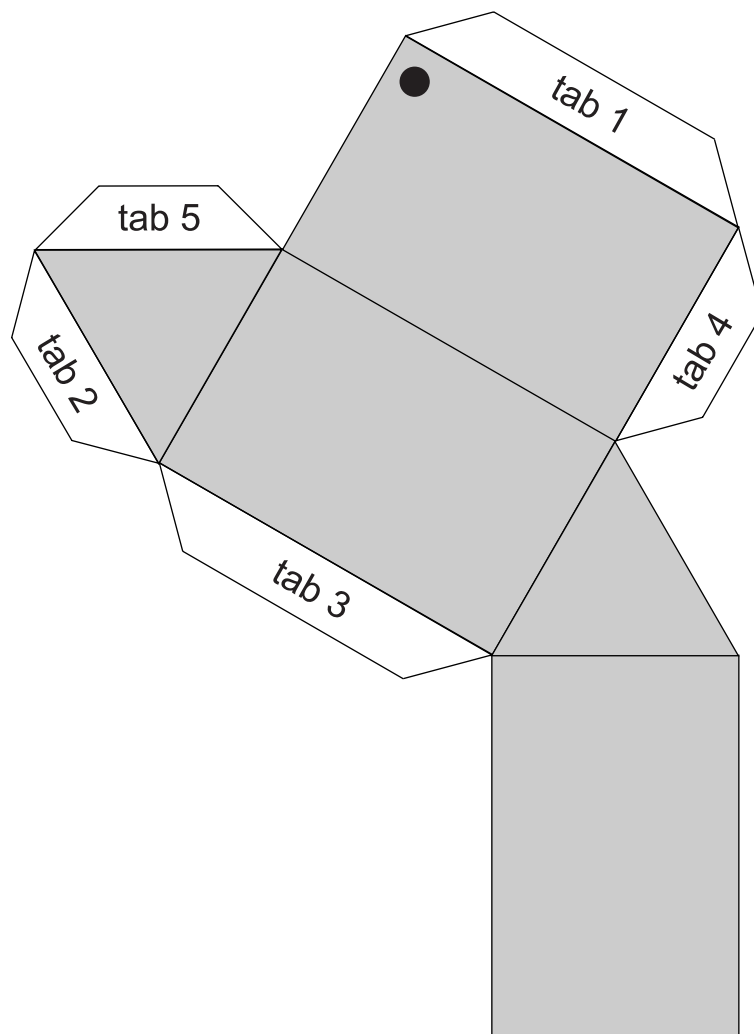
How did you decide?

Angle **B** is . . . . °

How did you decide?

7. The sketch shows the net of a triangular prism.

The net is folded up and glued to make the prism.

(a) Which edge is **tab 1** glued to?
On the diagram, label this edge A

. . . .
1 mark

(b) Which edge is **tab 2** glued to?
Label this edge B

. . . .
1 mark

(c) The corner marked ● meets two other corners.
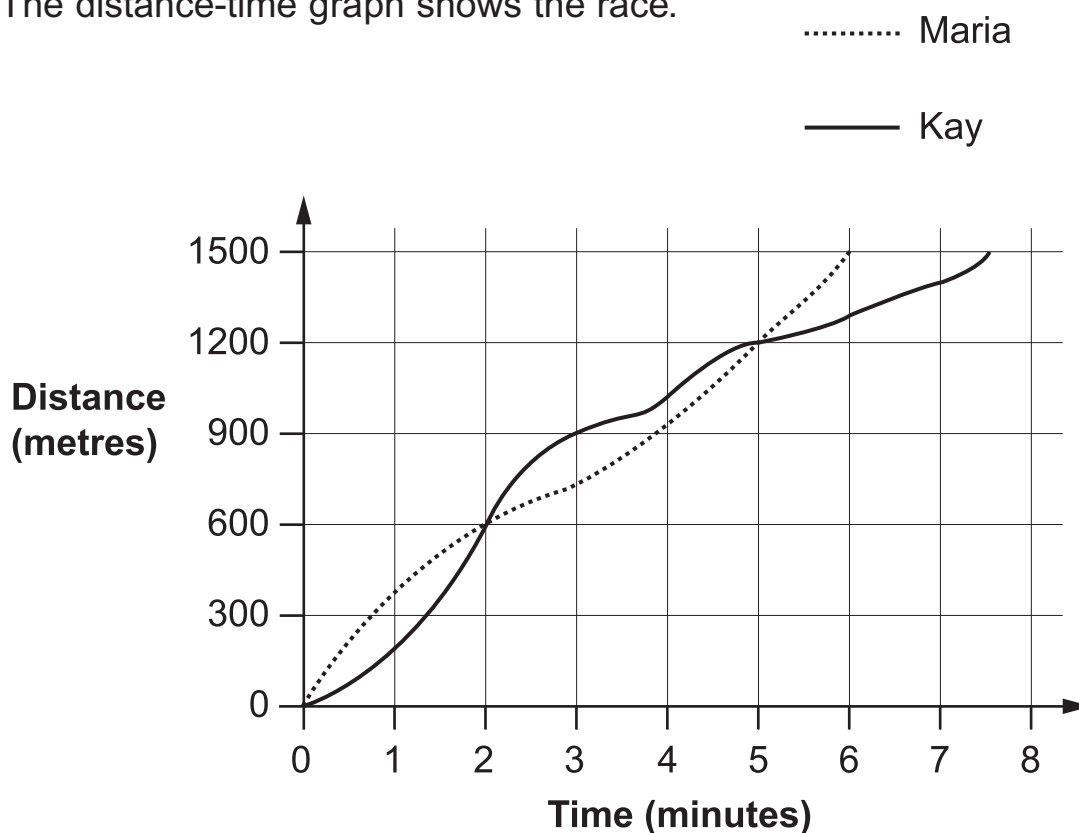Label these two other corners ●

. . . .
1 mark

8. Maria and Kay ran a 1500 metres race.

The distance-time graph shows the race.

·········· Maria

——— Kay

Use the graph to help you fill in the gaps in this report of the race.

✏️ Just after the start of the race, Maria was in the lead.

At 600 metres, Maria and Kay were level.

Then Kay was in the lead for . . . . minutes.

At . . . . metres, Maria and Kay were level again. . . . .

. . . . won the race.

2 marks

Her total time was . . . . minutes.

. . . . finished . . . . minutes later. . . . .

1 mark

9. The table shows some percentages of amounts of money.

	£10	**£30**	**£45**
5%	50p	£1.50	£2.25
10%	£1	£3	£4.50

You can use the table to help you work out the missing numbers.

✏️ 15% of £30 = £ _____

.....
1 mark

£6.75 = 15% of £ _____

.....
1 mark

£3.50 = ... % of £10

.....
1 mark

25p = 5% of £ _____

.....
1 mark

10.

Museum

entrance fee
£1.20 per person
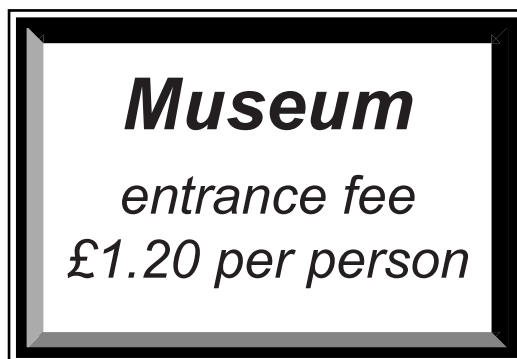
(a) **240 people** paid the entrance fee on Monday.

How much money is that altogether?

Show your working.

✏

£

. . . .

. . . .
2 marks

(b) The museum took **£600** in entrance fees on Friday.

How many people paid to visit the museum on Friday?

Show your working.

✏

. . . . people

. . . .

. . . .
2 marks

11. Write each expression in its simplest form.

$7 + 2t + 3t$

. . . .

1 mark

$b + 7 + 2b + 10$

. . . .

1 mark

$(3d + 5) + (d - 2)$

. . . .

1 mark

$3m - (- m)$

. . . .

1 mark

12. (a)   Two numbers **multiply** together to make **–15**

They **add** together to make **2**

What are the two numbers?

. . . . and . . . .

1 mark

(b)   Two numbers **multiply** together to make **–15**,

but **add** together to make **–2**

What are the two numbers?

. . . . and . . . .

1 mark

(c)   Two numbers **multiply** together to make **8**,

but **add** together to make **– 6**

What are the two numbers?

. . . . and . . . .

1 mark

(d)   The square of 5 is 25

The square of **another** number is also 25

What is that other number?

. . . .

1 mark

13.   There are some cubes in a bag.
The cubes are either **red** (R) or **black** (B).

The teacher says:

> If you take a cube at random out of the bag,
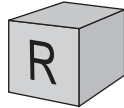> the probability that it will be **red** is $\dfrac{1}{5}$

(a)   What is the probability that the cube will be black?

✎   . . . .

. . . .
1 mark

(b)   A pupil takes one cube out of the bag.
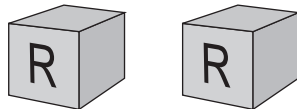It is red.

What is the **smallest** number of **black** cubes
there could be in the bag?

✎   . . . .

. . . .
1 mark

(c)   Then the pupil takes another cube out of the bag.
It is also red.

From this new information, what is the **smallest** number of **black** cubes
there could be in the bag?

✎   . . . .

. . . .
1 mark

(d) A different bag has **blue** (B), **green** (G) and **yellow** (Y) cubes in it. There is at least one of each of the three colours.

The teacher says:

> If you take a cube at random out of the bag, the probability that it will be **green** is $\frac{3}{5}$

There are **20** cubes in the bag.

What is the **greatest** number of yellow cubes there could be in the bag?
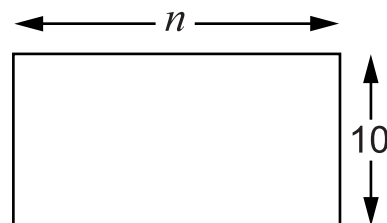
Show your working.

. . . .

. . . .

2 marks

14. Jenny and Alan each have a rectangle made out of paper.

One side is 10cm.
The other side is n cm.

(a) They write expressions for the **perimeter** of the rectangle.

Jenny writes $2n + 20$

Alan writes $2(n + 10)$

Tick (✓) the true statement below.
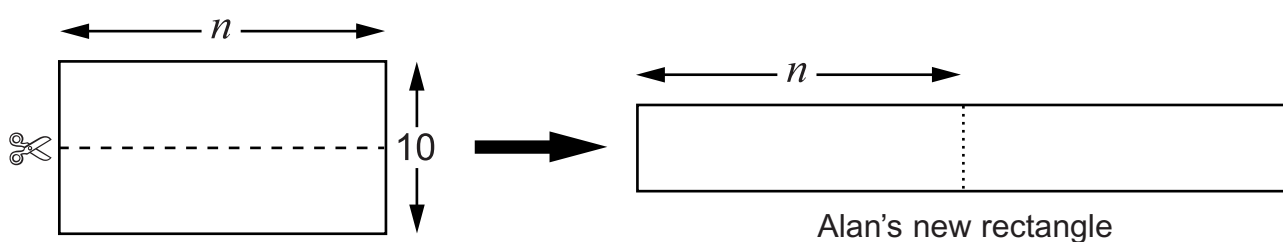
Jenny is correct and Alan is wrong. ☐

Jenny is wrong and Alan is correct. ☐

Both Jenny and Alan are correct. ☐

Both Jenny and Alan are wrong. ☐

1 mark

(b) Alan cuts his rectangle, then puts the two halves side by side.

Alan's new rectangle
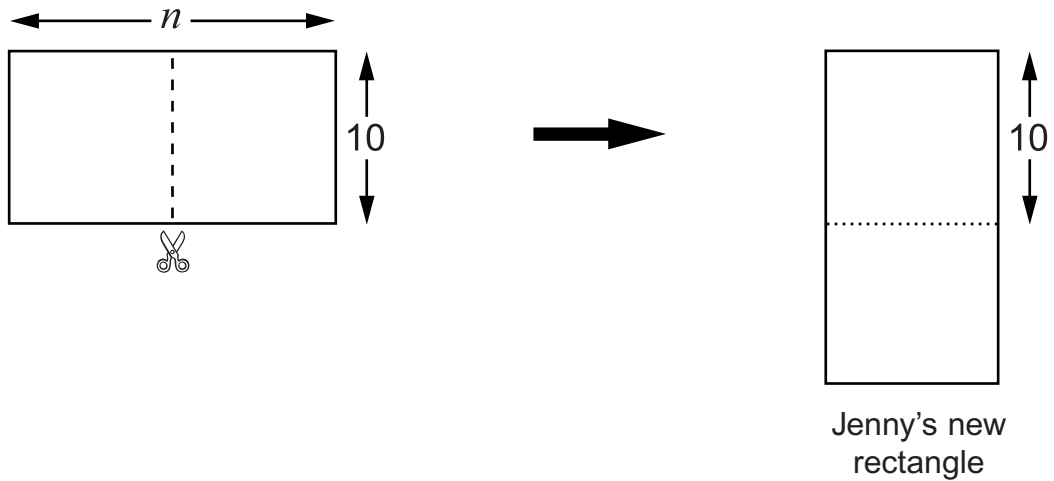
What is the perimeter of Alan's new rectangle?

Write your expression as simply as possible.

2 marks

(c)   Jenny cuts her rectangle a different way,
      and puts one half below the other.

Jenny's new
rectangle

What is the perimeter of Jenny's new rectangle?

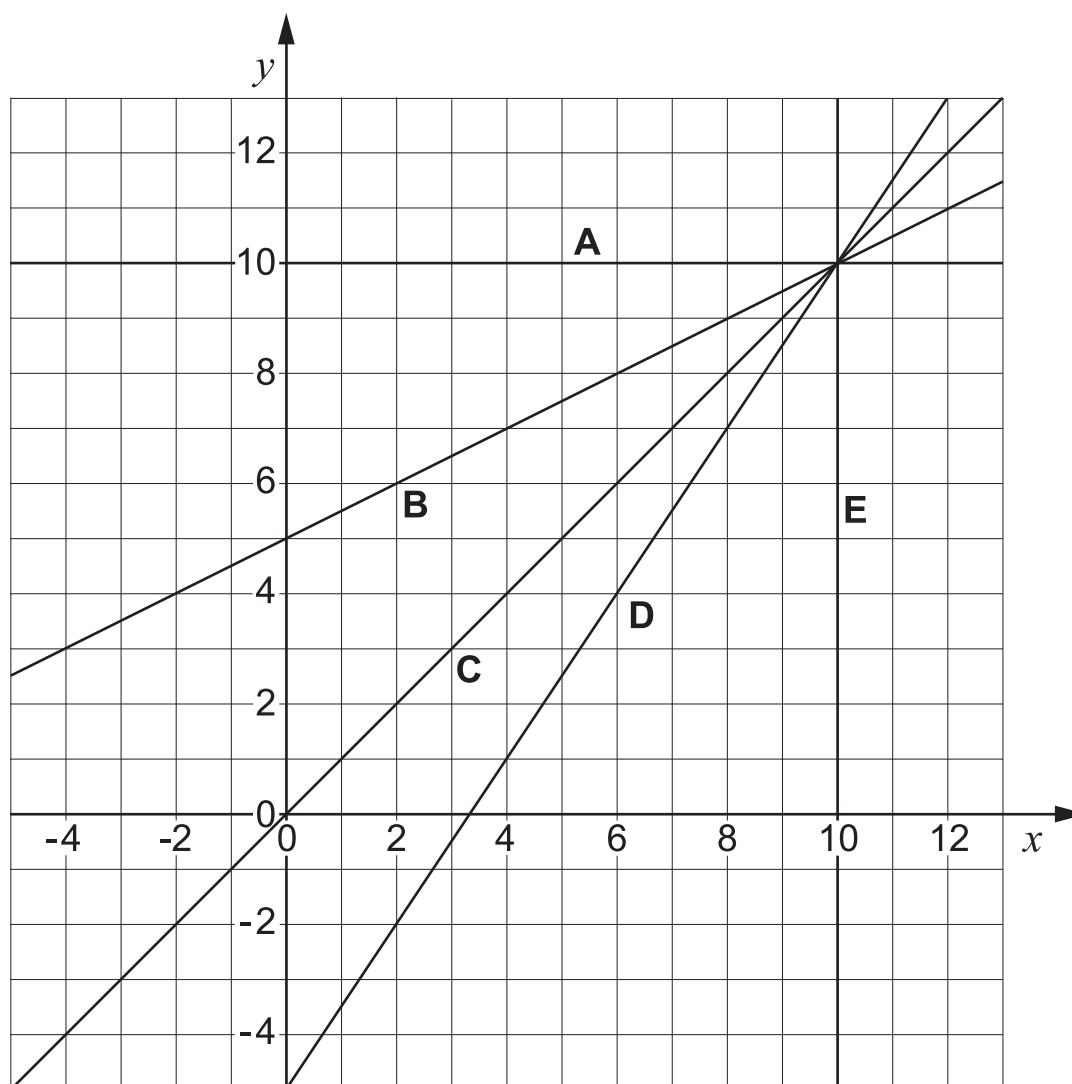Write your expression as simply as possible.

✎

. . . .

. . . .
2 marks

(d)   What value of n would make the perimeter of Jenny's new rectangle
      the **same value** as the perimeter of Alan's new rectangle?

✎

. . . .
1 mark

15.   These straight line graphs all pass through the point (10, 10)

Fill in the gaps to show which line has which equation.

✎   line . . . . has equation $x = 10$

line . . . . has equation $y = 10$

line . . . . has equation $y = x$

line . . . . has equation $y = \dfrac{3}{2}x - 5$

. . . .

line . . . . has equation $y = \dfrac{1}{2}x + 5$

. . . . .

2 marks

END OF TEST