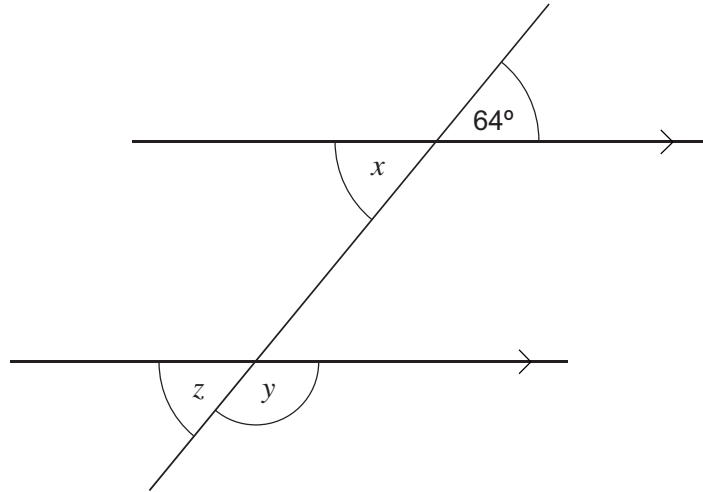


Answer **all** questions in the spaces provided.

1



Not drawn
accurately

1 (a) Write down the size of angle x .

Answer degrees (1 mark)

1 (b) Work out the size of angle y .

.....

Answer degrees (1 mark)

1 (c) Choose the correct word from the list to complete the sentence.

opposite alternate corresponding interior

Angle x and angle z are angles.

(1 mark)

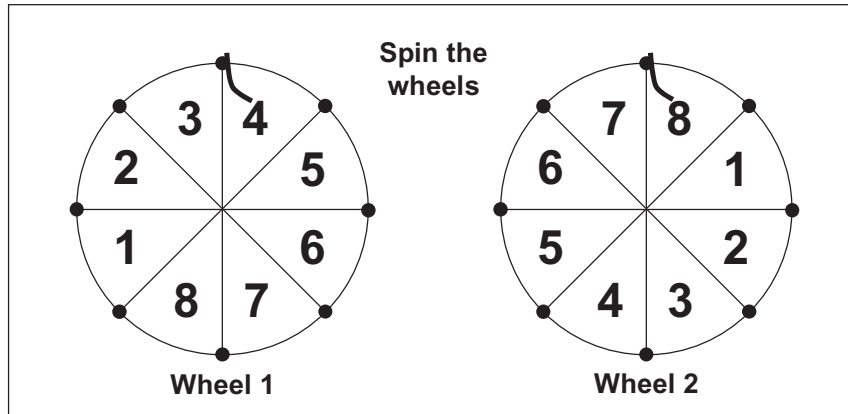
3

Turn over ►



- 2 In a game, players spin two wheels.
The wheels are fair.

The numbers are added to get a score.
The wheels show a score of $4 + 8 = 12$



You may use the grid below to help you answer the questions on the next page.

Wheel 2

	+	1	2	3	4	5	6	7	8
Wheel 1	1								
	2								
	3								
	4								12
	5								
	6								
	7								
	8								



2 (a) What is the most likely score?

.....
.....

Answer (2 marks)

2 (b)

Score
2, 3, 15 or 16
to win a prize

Work out the probability of winning a prize.

.....
.....

Answer (3 marks)

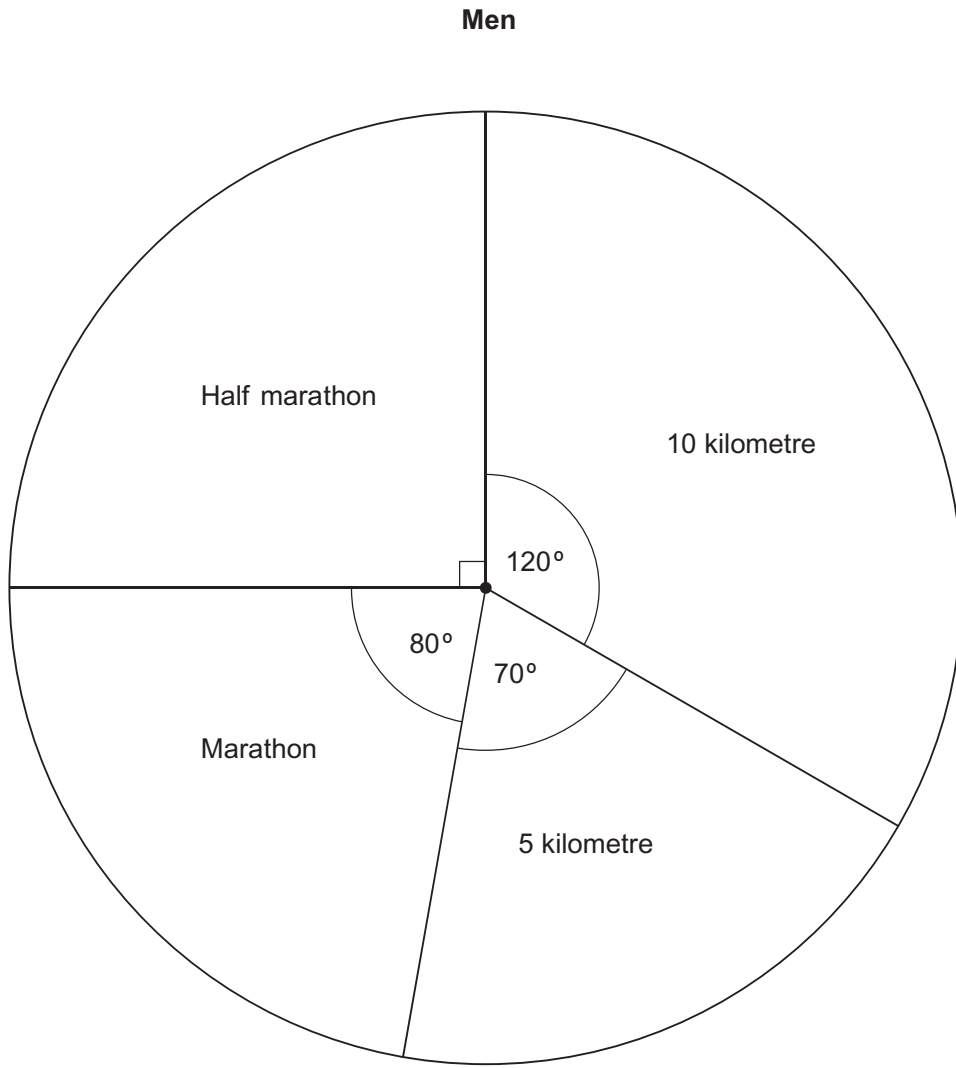
Turn over for the next question

5

Turn over ►



- 3 There are 36 men in a running club.
The pie chart shows information about their favourite races.



There are 20 women in the running club.

Here is information about their favourite races.

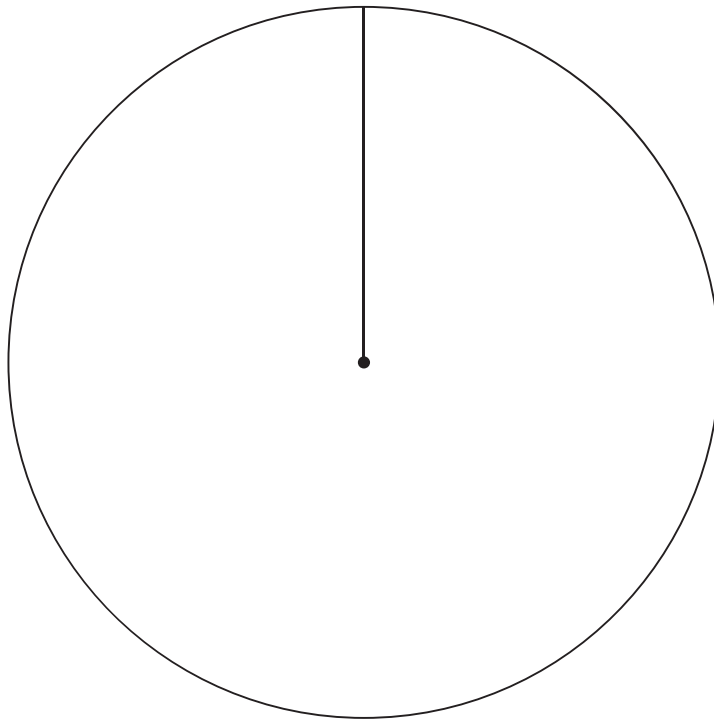
The same **proportion** of women prefer the half marathon as men.

The same **number** of women prefer 5 km races as men.

Equal numbers of women prefer 10 km races and the marathon.

Use this information to draw a fully labelled pie chart to show the favourite races of the women.

Women



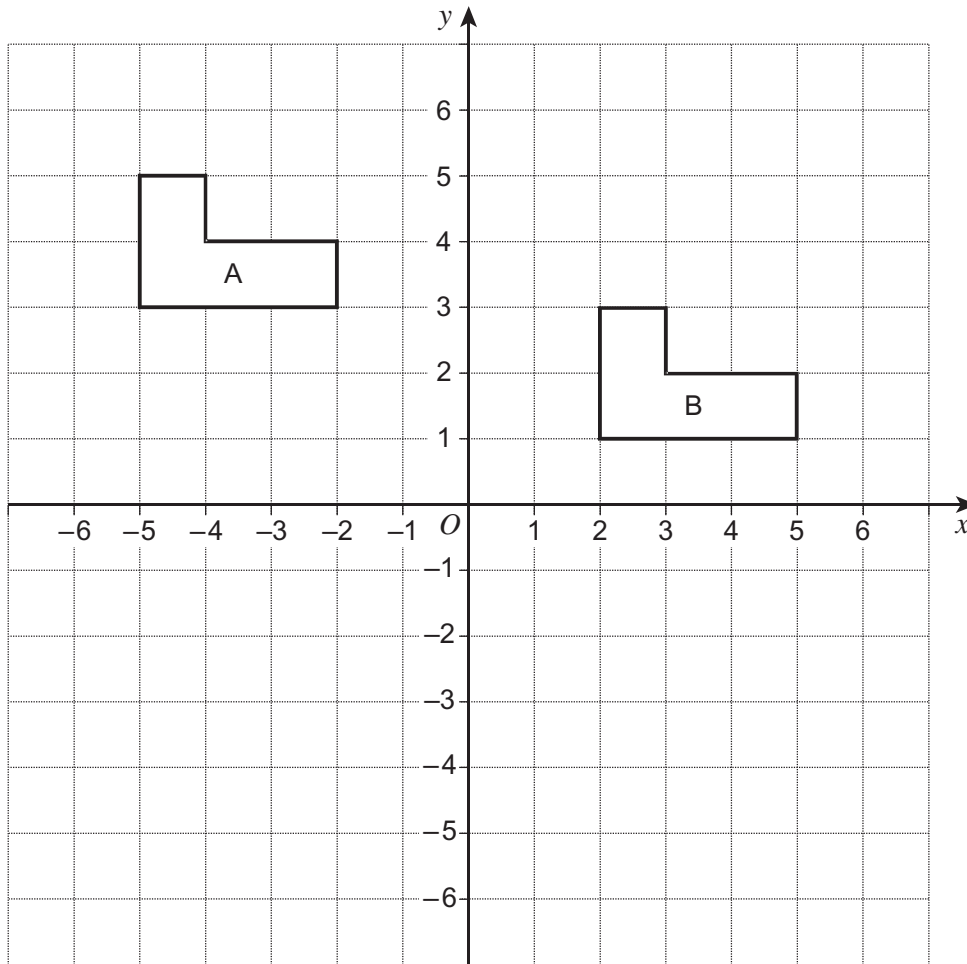
(4 marks)

4

Turn over ►



4



4 (a) Describe fully the **single** transformation that maps shape A to shape B.

.....

(2 marks)

4 (b) Draw the reflection of shape B in the line $y = -1$

(2 marks)



5 Solve $9x - 3 = 4x + 17$

.....
.....
.....
.....

$x =$ (3 marks)

6 (a) Factorise $7x - 21$

Answer (1 mark)

6 (b) Multiply out $4(y + 9)$

Answer (1 mark)

7 Expand and simplify $5(x - 3) - 2(x - 1)$

.....
.....
.....

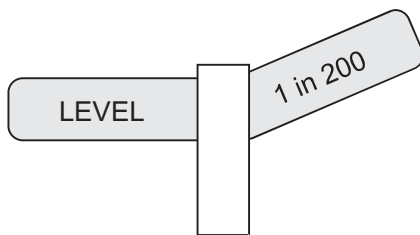
Answer (3 marks)

12

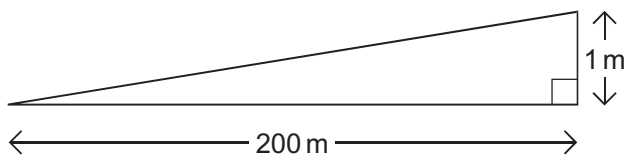
Turn over ►



8 The steepness of a railway track is shown by signs like this.

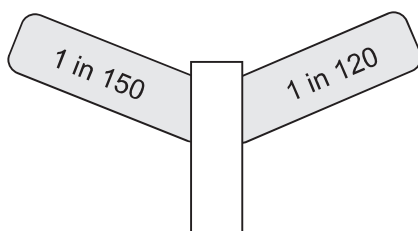


On the left of the sign the track is level.
On the right of the sign the track rises 1 metre for every 200 metres travelled horizontally.



Not drawn
accurately

*8 (a)



Which side of this sign shows the steeper track?
Show clearly how you decide.

You may use a diagram to explain your answer.

.....

.....

.....

(2 marks)

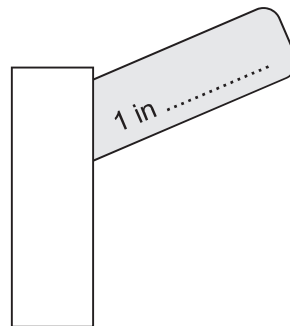


8 (b) The steepness can also be measured as a percentage.

For example 1 in 200 would be $\frac{1}{200} \times 100 = 0.5\%$

The steepest railway line in Britain has a percentage of 2.5%.

Fill in this sign to show a steepness of 2.5%.



(2 marks)

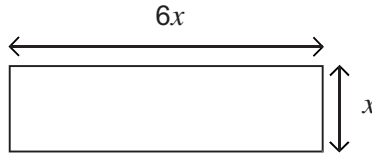
Turn over for the next question

4

Turn over ►

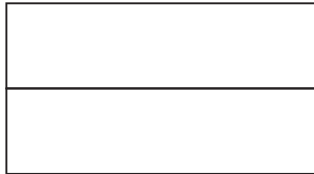


9 The length of this rectangular tile is 6 times the width.



Not drawn
accurately

Two tiles are put together to make this shape.



Not drawn
accurately

The perimeter of the new shape is 24 cm.

Work out the width of **one** tile.

.....

.....

.....

.....

.....

.....

Answer cm (3 marks)



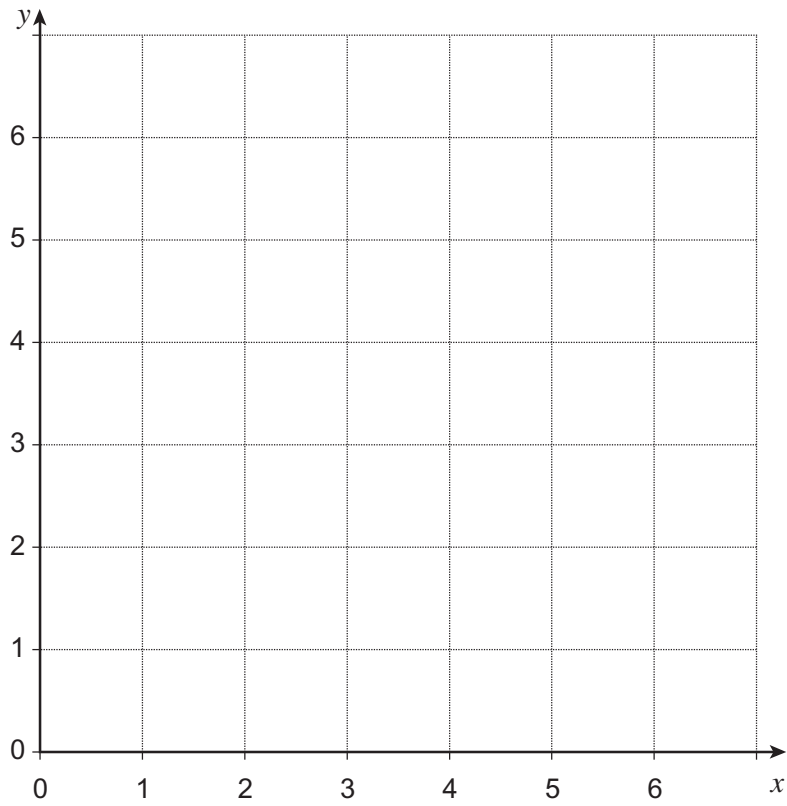
10 On the grid draw lines to show the region satisfied by the three inequalities.

$$x \leq 4$$

$$y \leq x$$

$$x + y \geq 4$$

Label the region clearly with the letter R.



(3 marks)

6

Turn over ►

