

Summer Assessment

# Year 8

## Mathematics

**Higher:** No calculator allowed

Time allowed: 45 minutes

First name						
Middle name						
Last name						
Date of birth	Day		Month		Year	
Teacher						

These assessments have been designed by White Rose Maths.  
For more information, please visit [www.whiterosemaths.com](http://www.whiterosemaths.com)



1

The rule for the  $n^{\text{th}}$  term of a sequence is  $3n + 7$

Work out the 10<sup>th</sup> term of the sequence.

1 mark

Is 78 a term in the sequence?

You must show how you got your answer.

2 marks

2

Teddy buys a game for £20

Later, he sells the game for £16

What percentage loss does Teddy make?

%

2 marks

3

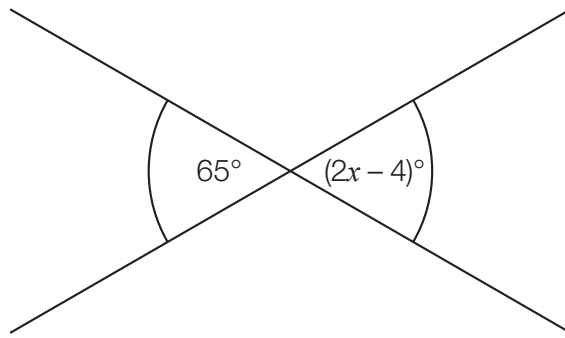
The table shows the mean and range of the number of text messages sent by two friends over a week.

	Mean	Range
Whitney	39	81
Huan	42	12

Compare the number of text messages sent by Whitney and Huan that week.

2 marks

4



Find the value of  $x$ .

$x =$

2 marks

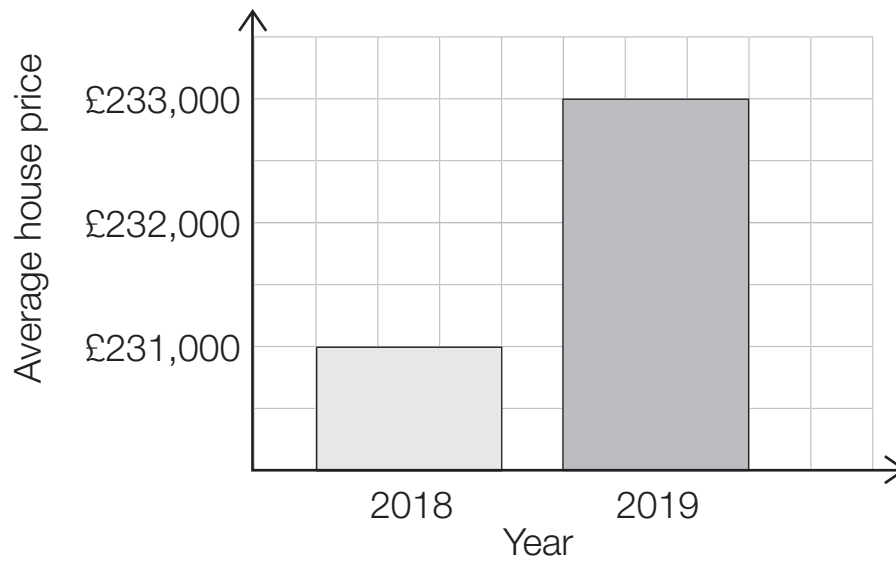
Solve the inequality.

$$6x - 5 > 2(2x + 1)$$

3 marks

5

The graph shows the change in house prices between 2018 and 2019

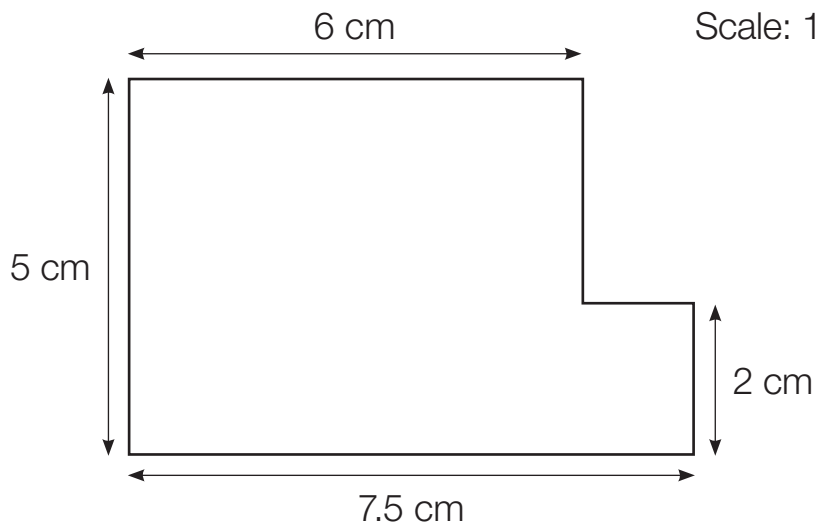


Explain why the graph could be misleading.

1 mark

6

Here is the plan of a field.



Work out the perimeter of the field.

Give your answer in metres.



2 marks

7

Construct the perpendicular bisector of this line.

You should leave your construction lines visible.



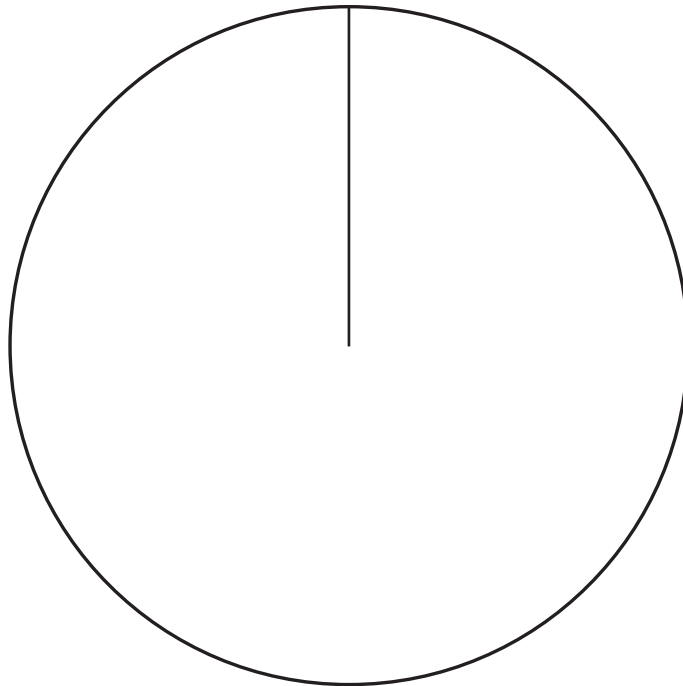
2 marks

**8**

The table gives information about the languages studied by year 8 students at school A.

Language	French	Spanish	German
Number of students	54	38	28

Draw a pie chart for this information.



3 marks



What is the probability that a year 8 student at school A studies French?

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1 mark

At school B, 108 year 8 students study French.  
This is 60% of the year group.

How many students do **not** study French in year 8 in school B?

students

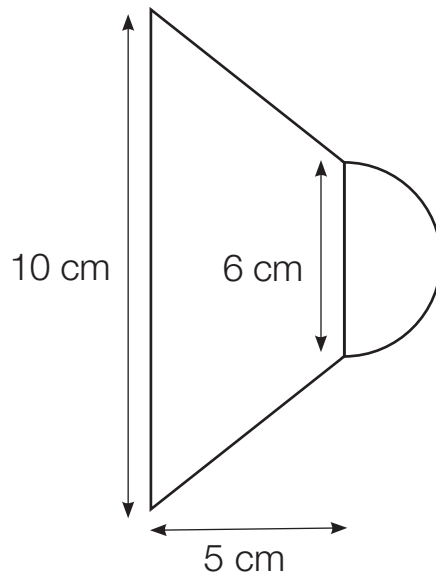
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2 marks

9

A logo consists of an isosceles trapezium and a semicircle.

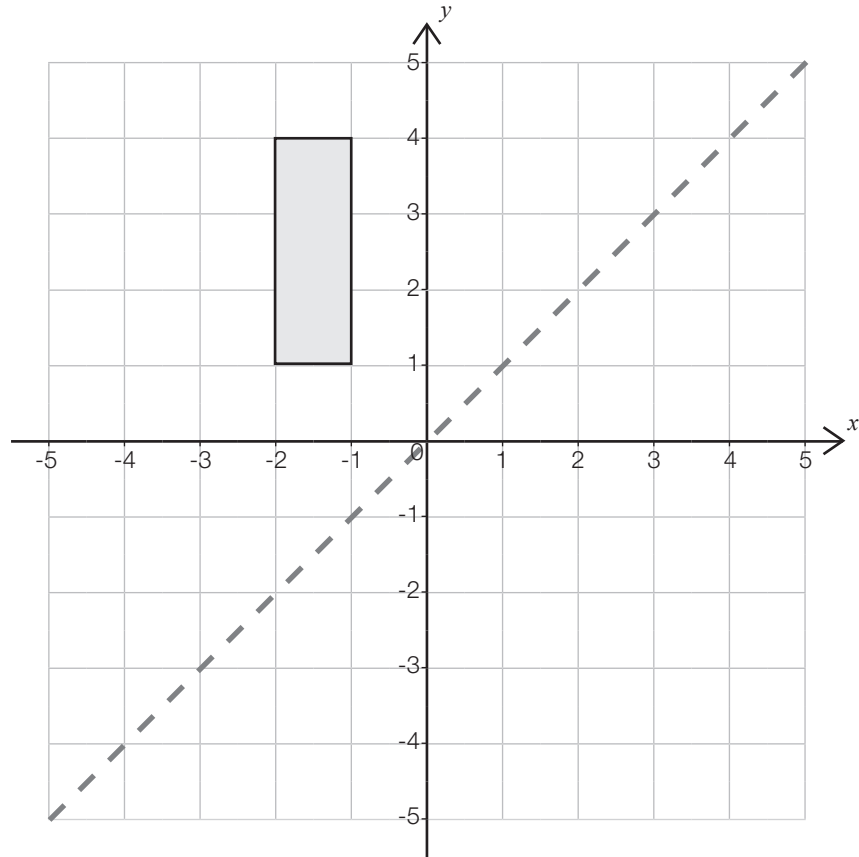
Calculate the area of the logo, giving you answer in terms of  $\pi$ .



$\text{cm}^2$

3 marks

10



Write down the equation of the dotted line.

1 mark

Reflect the rectangle in the dotted line.

2 marks

**11**

The ratio of the interior and exterior angles of a regular polygon is 3 : 1

How many sides does the polygon have?

Show all your working.



3 marks

**12**

The table shows the number of goals scored by a football team in 20 matches.

Number of goals scored	Frequency	
0	5	
1	8	
2	4	
3	2	
4	1	
	20	

Work out the mean number of goals scored by the team per game.

3 marks

**13**

Put these numbers in order of size, starting with the smallest.

$5 \times 10^3$

$8 \times 10^{-3}$

$2^{-3}$

$4^{\frac{1}{2}}$

$0$

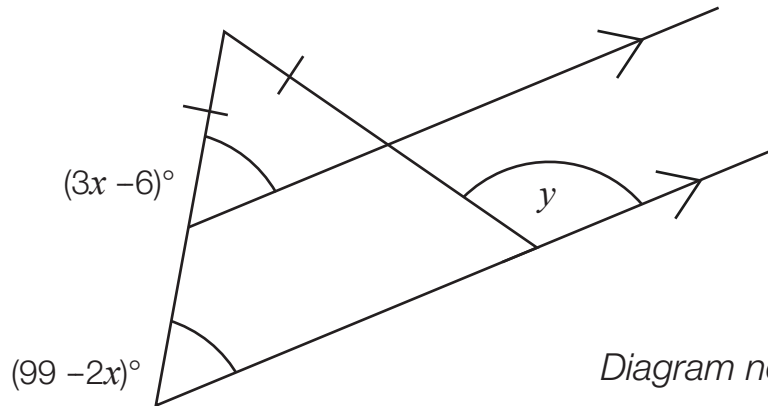
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2 marks

14

Work out the size of the angle labelled  $y$ .

Give a reason for each stage of your working.



$y =$		$^{\circ}$
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3 marks

END OF TEST

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