Year 8

Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

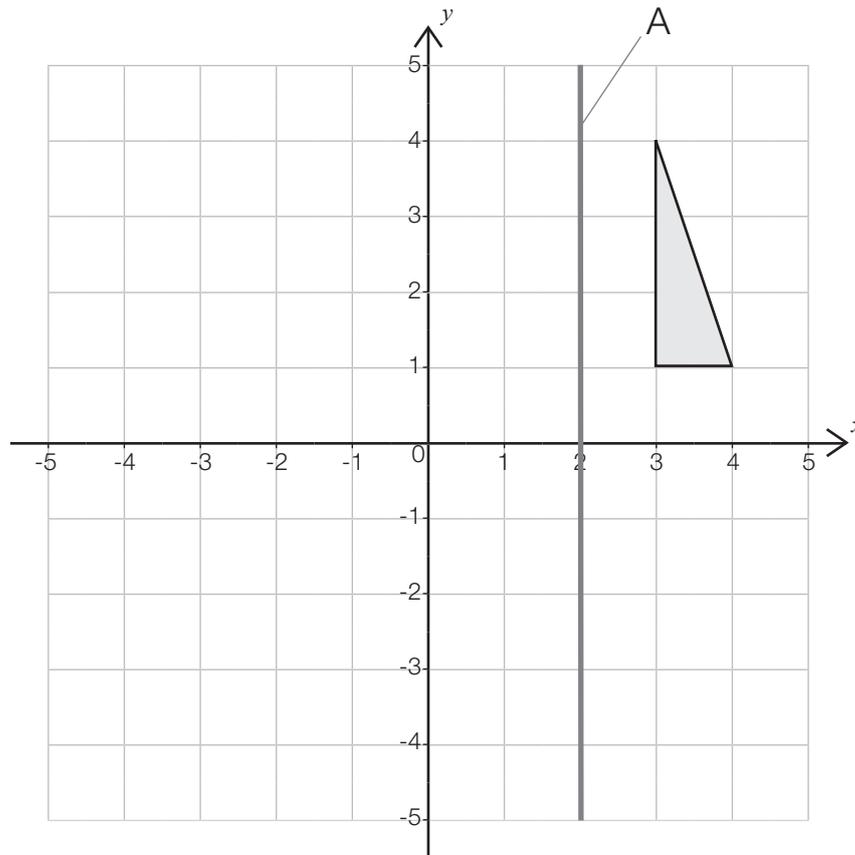| First name	
Middle name	
Last name	

Date of birth	Day		Month		Year	

Teacher	

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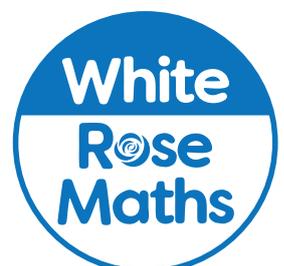
Reflect the triangle in the line labelled A.

What is the equation of the line labelled A?

Circle your answer.
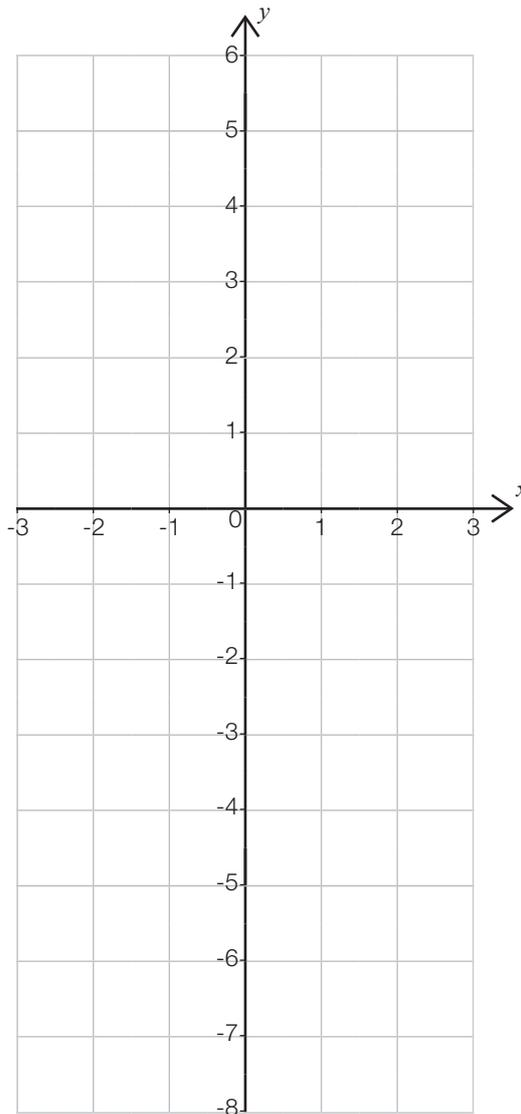
$x = 2$ $y = 2$ $y = x + 2$ $x = y + 2$

2 Complete the table of values for $y = 3x - 1$

x	−2	−1	0	1	2
y	−7				5

On the grid below plot the graph of $y = 3x - 1$ for values of x from −2 to 2

3 Show that

$$3(d + 2) + 3d + 1 \equiv 6d + 7$$

2 marks

Hence or otherwise solve the equation

$$3(d + 2) + 3d + 1 = 52$$

2 marks

4

A group of 24 people were asked to state their favourite type of film.

The number of people who chose comedy is shown in the table.

- A quarter of the people chose romance.
- $\frac{3}{8}$ of the people chose action.
- The rest chose horror.

Complete the tally chart.

Type of film	Tally	Frequency
Romance		
Comedy	卌 |||	
Action		
Horror		

3 marks

5 Dora and Teddy going are on holiday to Spain.

Dora changes £200 into euros (€).

The exchange rate is £1 = €1.12

> Work out how many euros (€) Dora receives.

€ [   ]

Teddy has €800

He spends 65% of his euros (€) on a hotel bill.

> How many euros (€) does Teddy have left?

€ [   ]

6

Dani wants to find out how much money people spend on books.

She uses this question.

How much do you spend on books?

☐ £5 - £10

☐ £10 - £20

☐ £20 - £50

Write down one thing wrong with this question.

1 mark

Design a better question to find out how much people spend on books.

2 marks

7 Here are the ages of 5 people.

7   51   14   7   11

Work out the range of these ages.

Find the median age.

Work out the mean age.

Explain why the median age might be more representative of this data than the mean.

1 mark

8 A bear sleeps for 18 hours a day.

What percentage of a day is the bear asleep?

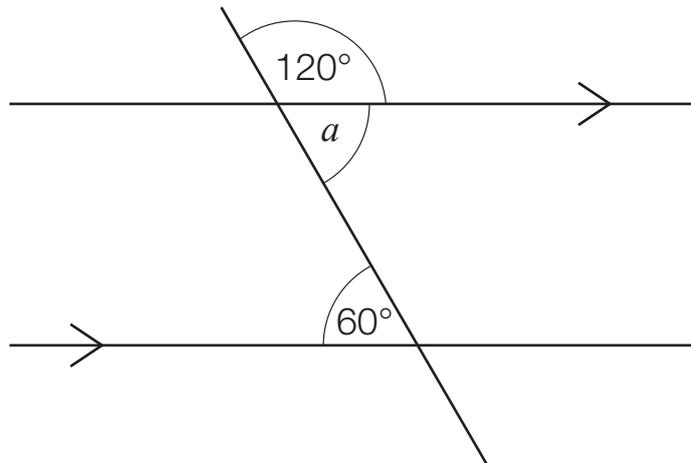|	%

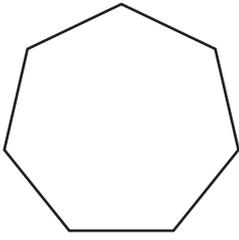Find the missing numbers.

20% of 80 is [ ]

20% of [ ] is 80

9

120°

a

60°

Give **two** reasons why angle *a* = 60°

Reason 1:

Reason 2:
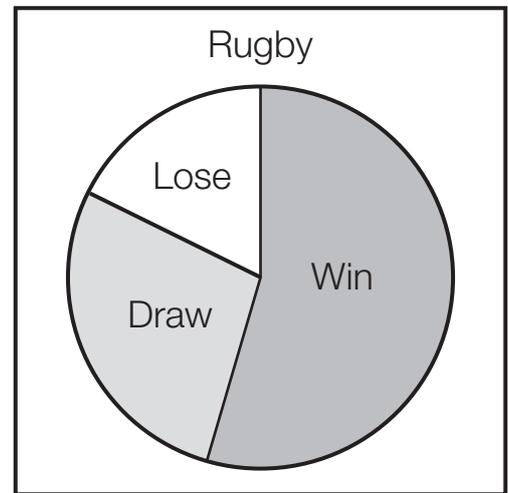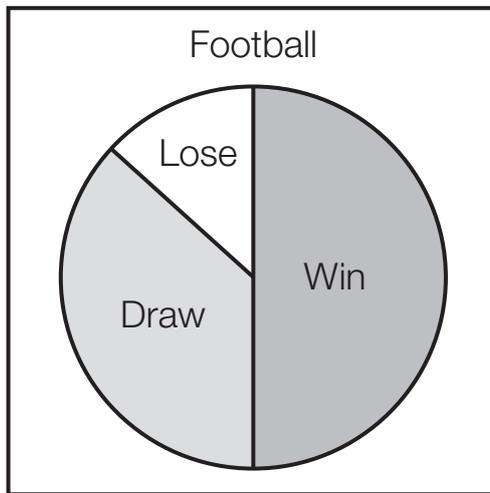
What is the sum of the interior angles of a **7-sided** polygon?

°

2 marks

10 The pie charts show the results of a school's football and rugby matches.

Football

Lose
Win
Draw

Rugby

Lose
Win
Draw

Estimate the percentage of games the rugby team lost.

1 mark

Ron says,

'The rugby team won more games than the football team'.

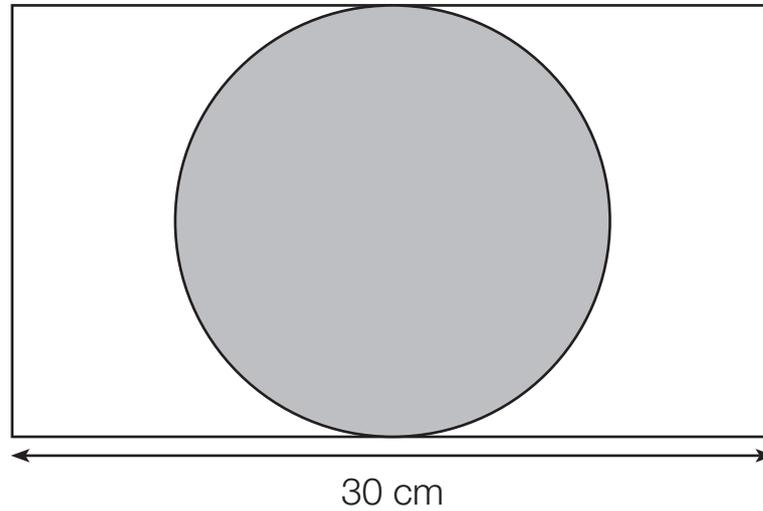Explain why Ron may be incorrect.

1 mark

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11 Phoebe has some sheets of rectangular card.

Each sheet of card is **30 cm long** and **20 cm wide**.
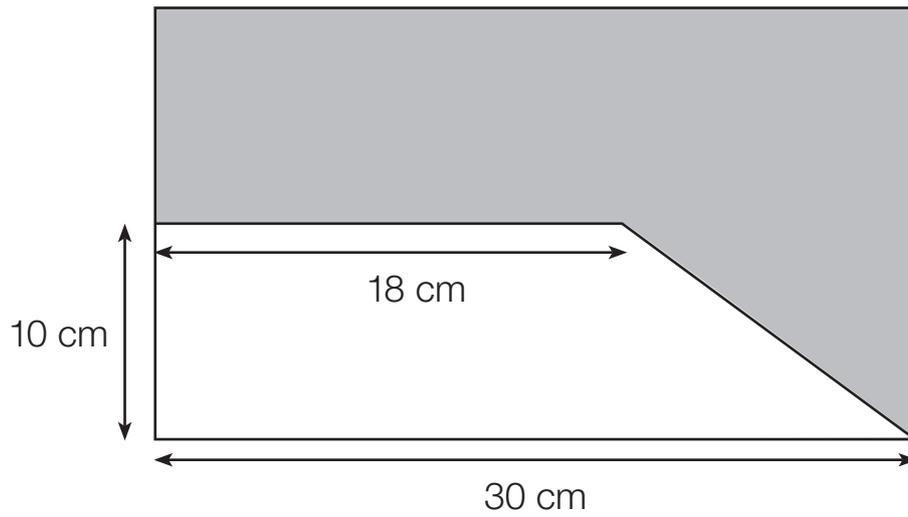
Phoebe cuts out a circle from a sheet of card.

30 cm

What is the area of the circle?

Give your answer to three significant figures.

cm²

2 marks

Phoebe then cuts out a trapezium from another piece of card.

What is the area of the trapezium?

cm²

END OF TEST

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