Autumn Assessment A

Year 9

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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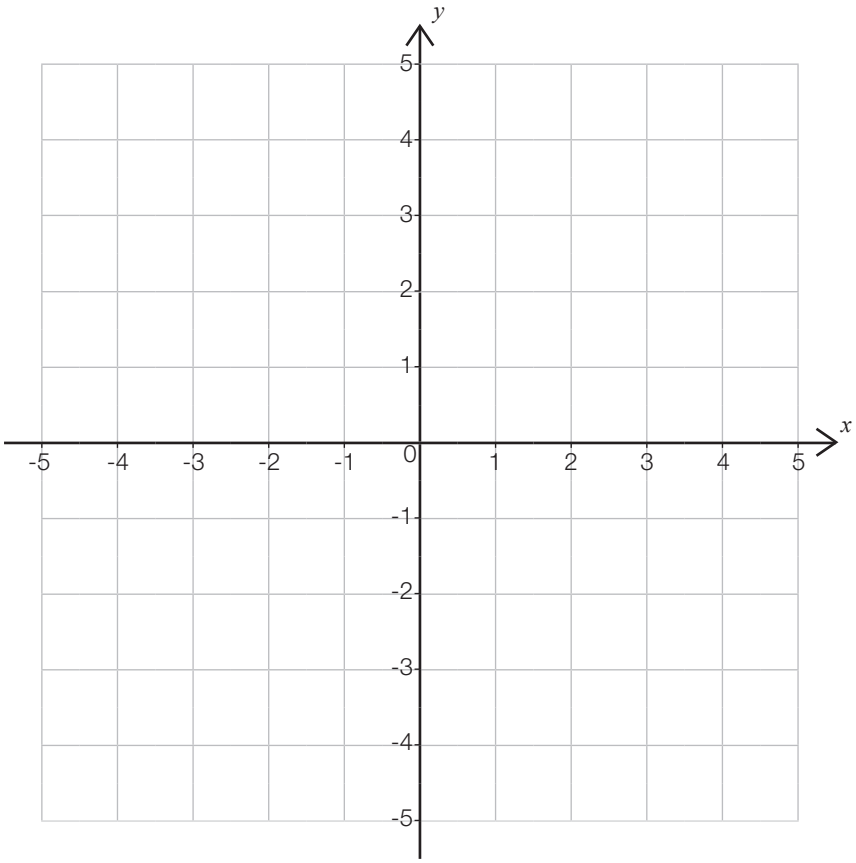
White Rose Maths

1



Draw the graph of $y = x$ on the grid.

1 mark

Draw the graph of $y = 3$ on the grid.

1 mark

Write down the coordinates of the point where the graph $y = x$ meets the graph $y = 3$

(,)

1 mark

2 Circle the equation that has the solution $a = 7$

$9 - 2a = 23$ $\quad$ $9 + 2a = 23$

$2a - 9 = 23$ $\quad$ $9 = 2a + 23$

1 mark

Solve the equation

$$7t - 12 = 2t + 3$$

$t =$

3 marks

Solve the inequality

$$3(w + 6) > 21$$

2 marks

3 Here is a 3D shape.

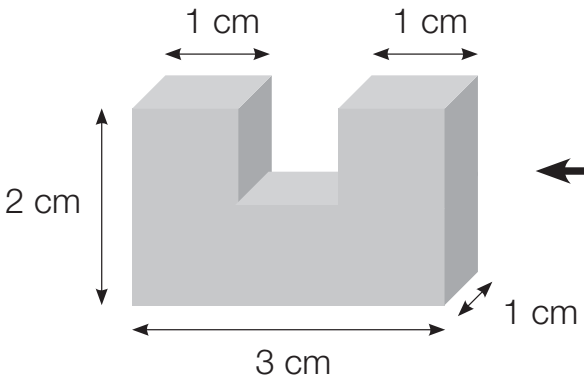
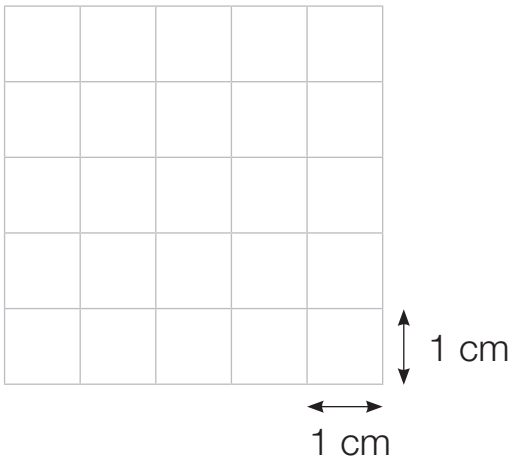


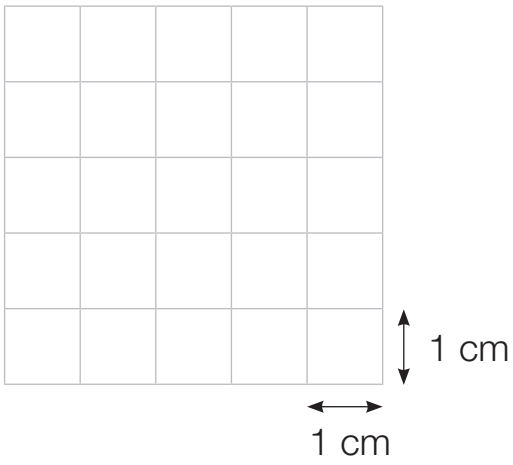
Diagram not drawn to scale

On the grid, draw the side elevation.



1 mark

On the grid, draw the plan view.



1 mark

4 Construct a perpendicular bisector of the line segment AB.

Leave your construction lines showing.

2 marks

5 Show that

$$5(x + 3) - 2(x - 4) \equiv 3x + 23$$

3 marks

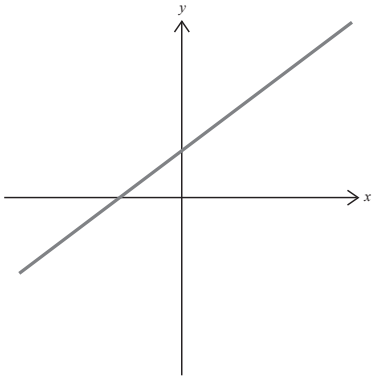
Expand and simplify

$$(x + 3)(x + 4)$$

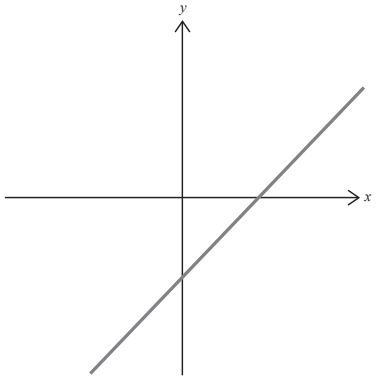
2 marks

6 Here are four straight line graphs.

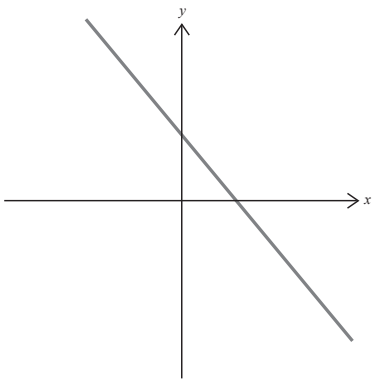
A



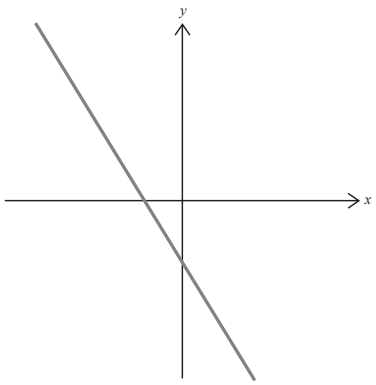
C



B



D



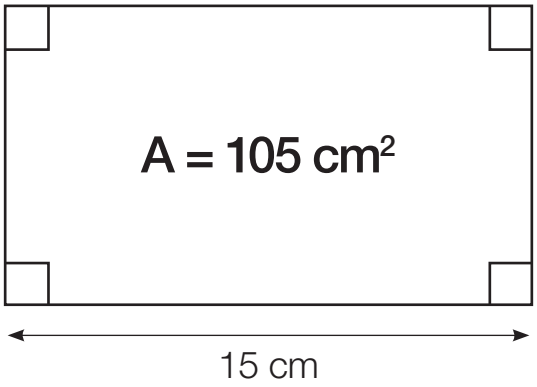
Each equation in the table represents one of the graphs.

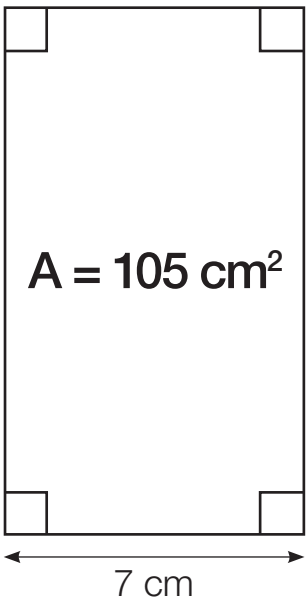
Write the letter of each graph in the correct place in the table.

Equation	Graph
$y = 3x + 2$	
$y = 3x - 2$	
$y = -3x + 2$	
$y = -3x - 2$	

2 marks

7





The two rectangles are congruent.

Is the statement true or false? Circle your answer.

True **False**

Explain your reasoning.

2 marks

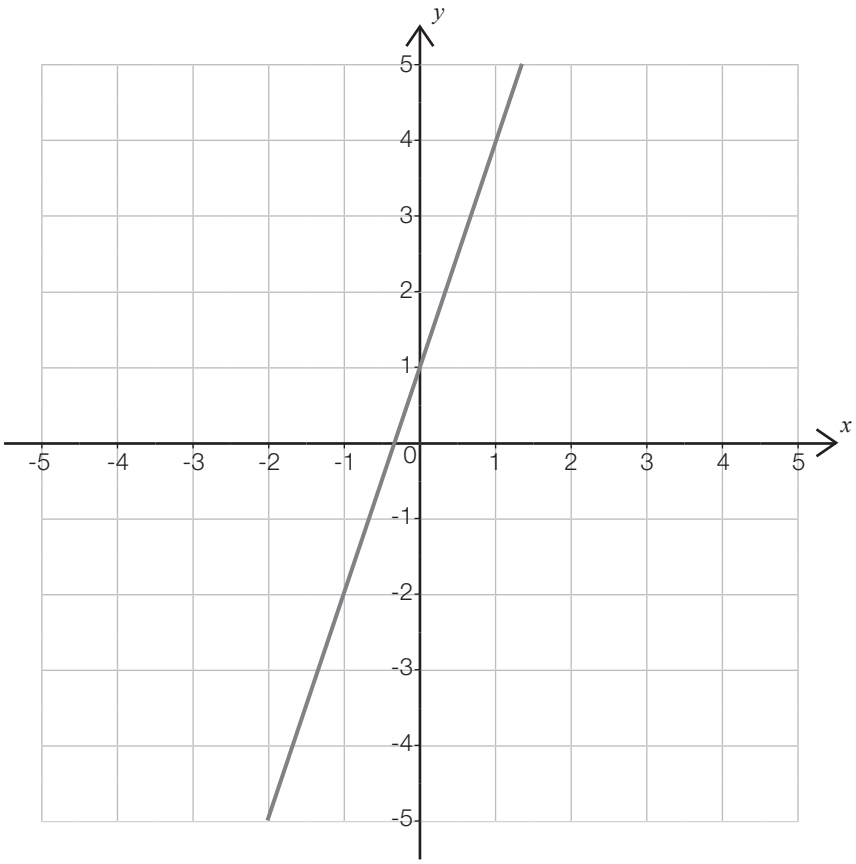
8 Make a the subject of the formula.

$$2a - b = c$$

_____

2 marks

9 Here is a linear graph.



State the coordinates of the y-intercept of the line.

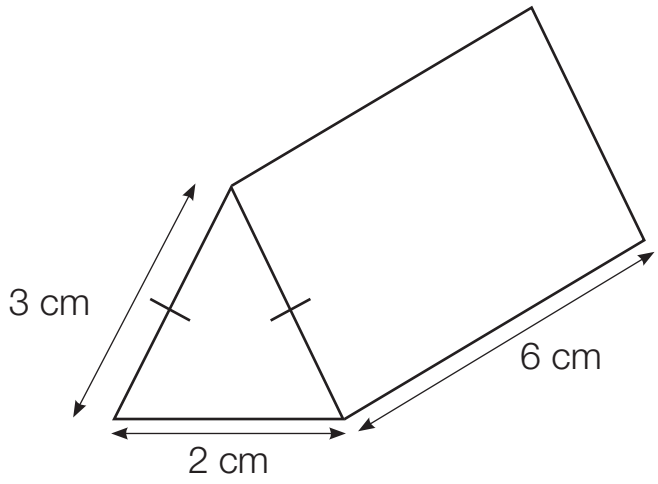
(,)

1 mark

Work out the gradient of the line.

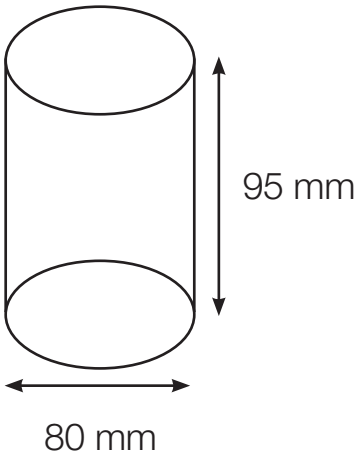
1 mark

10 Construct an accurate net for the triangular prism.



3 marks

11



Sketch a net of the cylinder.

Your net does not need to be to scale.

1 mark

Work out the surface area of the cylinder.

mm²

3 marks

12 Sally and her friends are using buckets to fill a paddling pool with water.

A bucket holds 7.5 litres of water.

1 litre = 1000 cm^3

The paddling pool is in the shape of a cuboid.

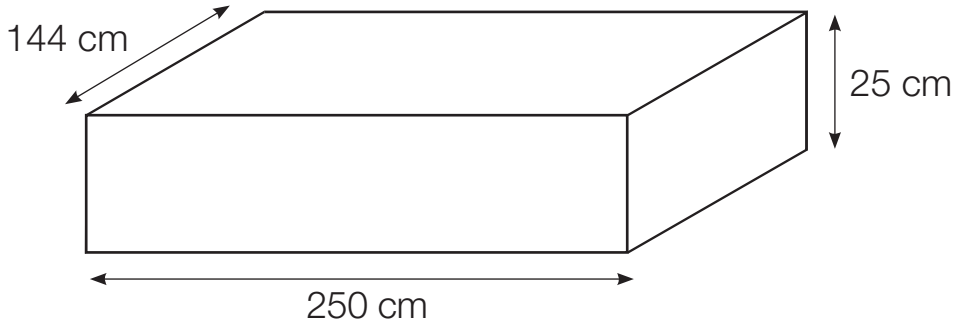


Diagram not drawn accurately

How many buckets of water are needed to fill the paddling pool?

buckets

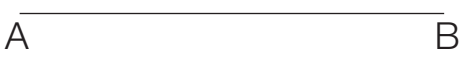
4 marks

13 Nijah is asked to draw the locus of the points 2 cm away from the line segment AB. Here is her answer.

Explain Nijah's mistake.

1 mark

Using the copy of the line segment AB below, draw the correct locus of the points 2 cm away from the line segment AB.



2 marks

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