ALSOP HIGH SCHOOL

Assessed Task

Subject	Maths
Unit/Module	Year 9 Mid Way Assessment
Foci of assessed task	Straight Line Graphs, Forming and Solving Equations, Testing Conjectures, Nets of Shapes, Interleaved Topics
Name	
Class	

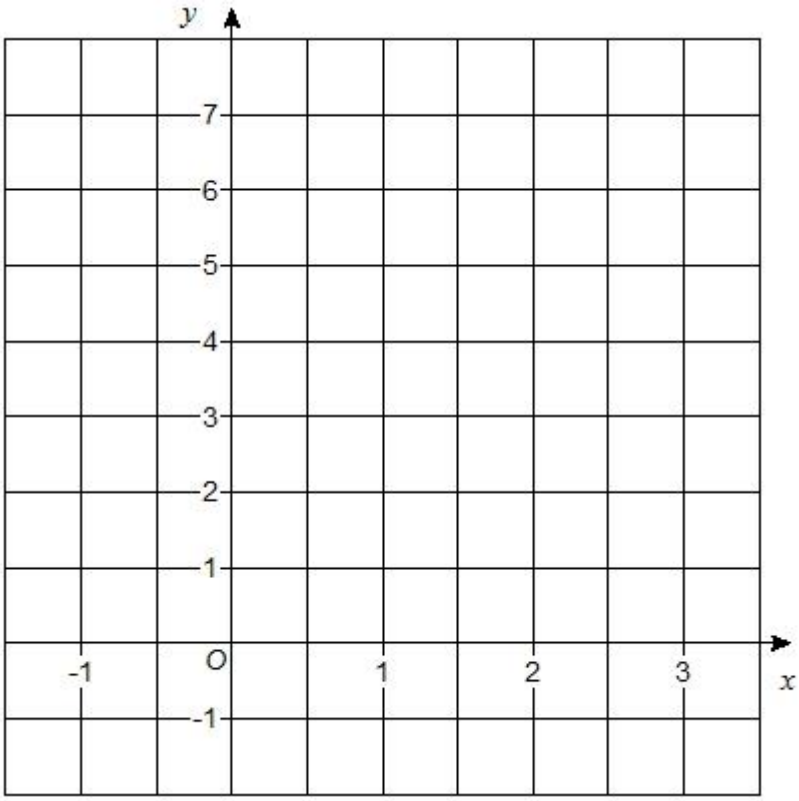
Q1.

(a) Complete the table of values for $y = 2x + 1$

x	–1	1	3
y	–1	3	

[1 mark]

(b) On the grid, draw the graph of $y = 2x + 1$ for values of x from –1 to 3



[2 marks]

(c) On the grid, draw the line $y = 5$

[1 mark]

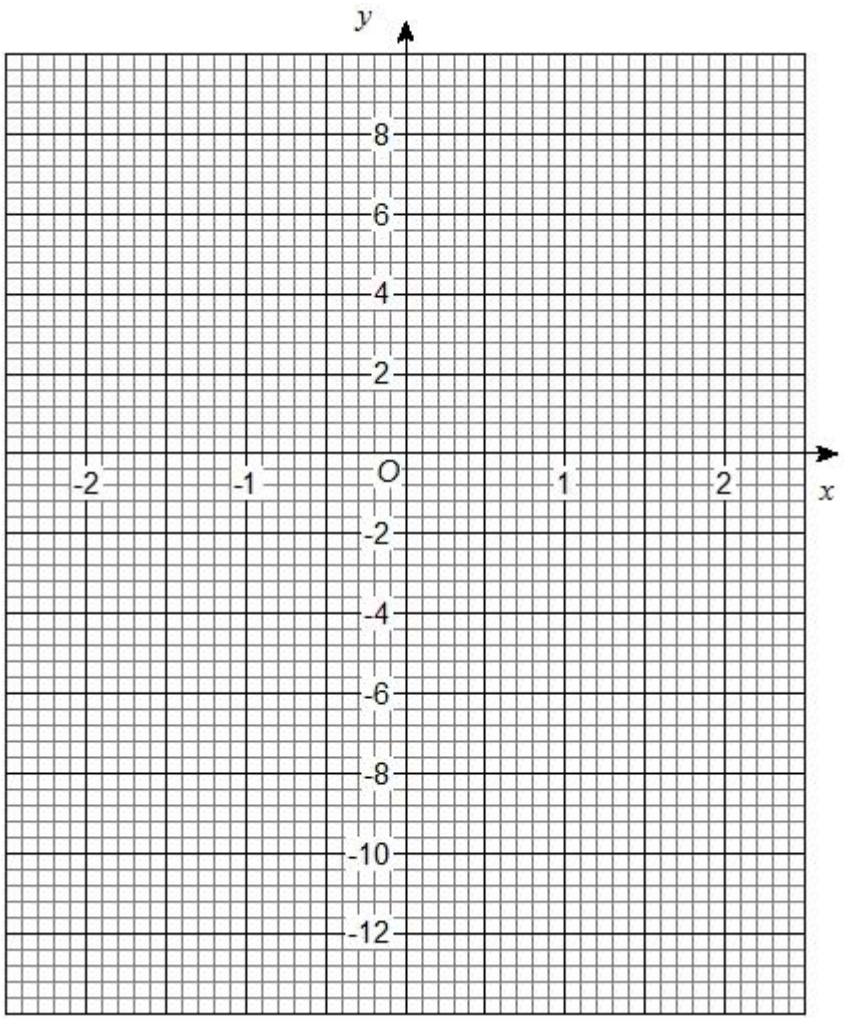
Q2.

(a) Complete the table of values for the graph $y = 5x - 2$

x	–2	–1	0	1	2
y		–7	–2	3	

[1 mark]

(b) On the grid, draw the graph of $y = 5x - 2$ for values of x from –2 to 2



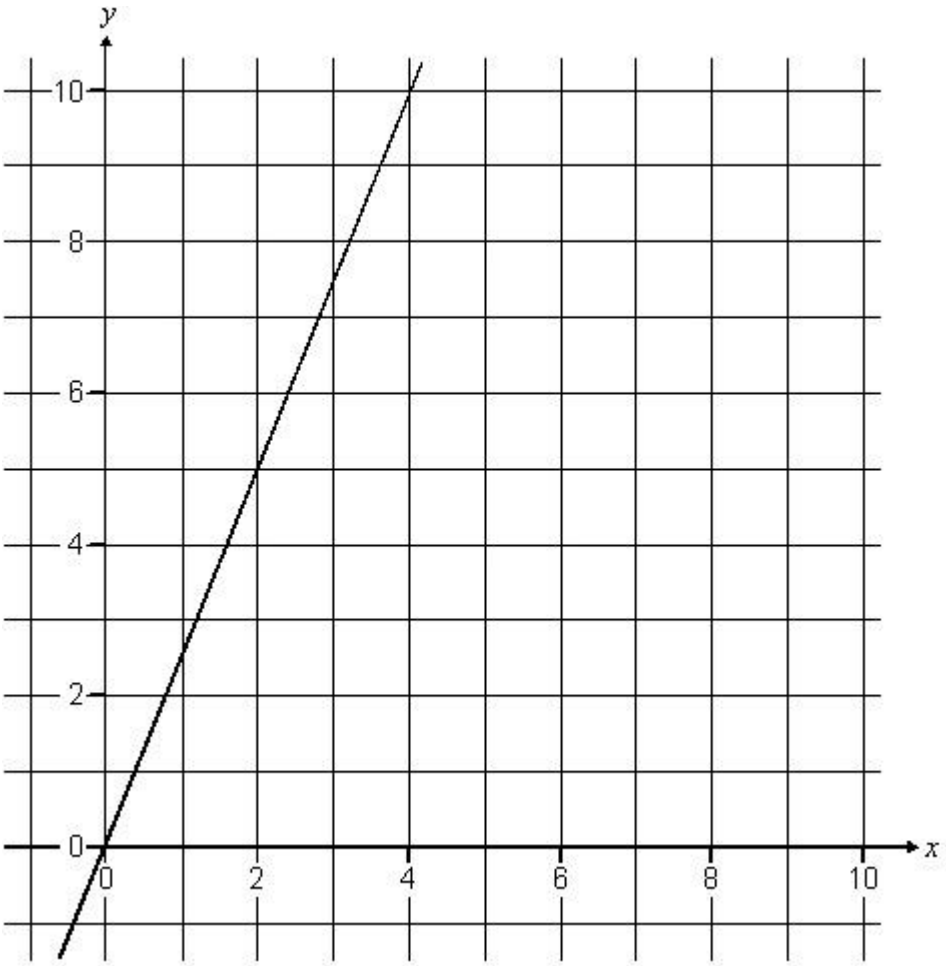
[2 marks]

Q3.

The graph shows a straight line through the point (2, 5)

Use a ruler to draw another straight line that is **parallel** to this line.

The line **must** go through the point **(3, 0)**



[1 mark]

Q4.

In this question you may use the grid one the next page, but you do not have to.

(a) Show that the line $y = 3x - 6$ does **not** go through the point (4,7).

_____

_____

_____

[2 marks]

(b) Work out the coordinates of the point where the line $y = 3x - 6$ crosses the ***x*-axis**.

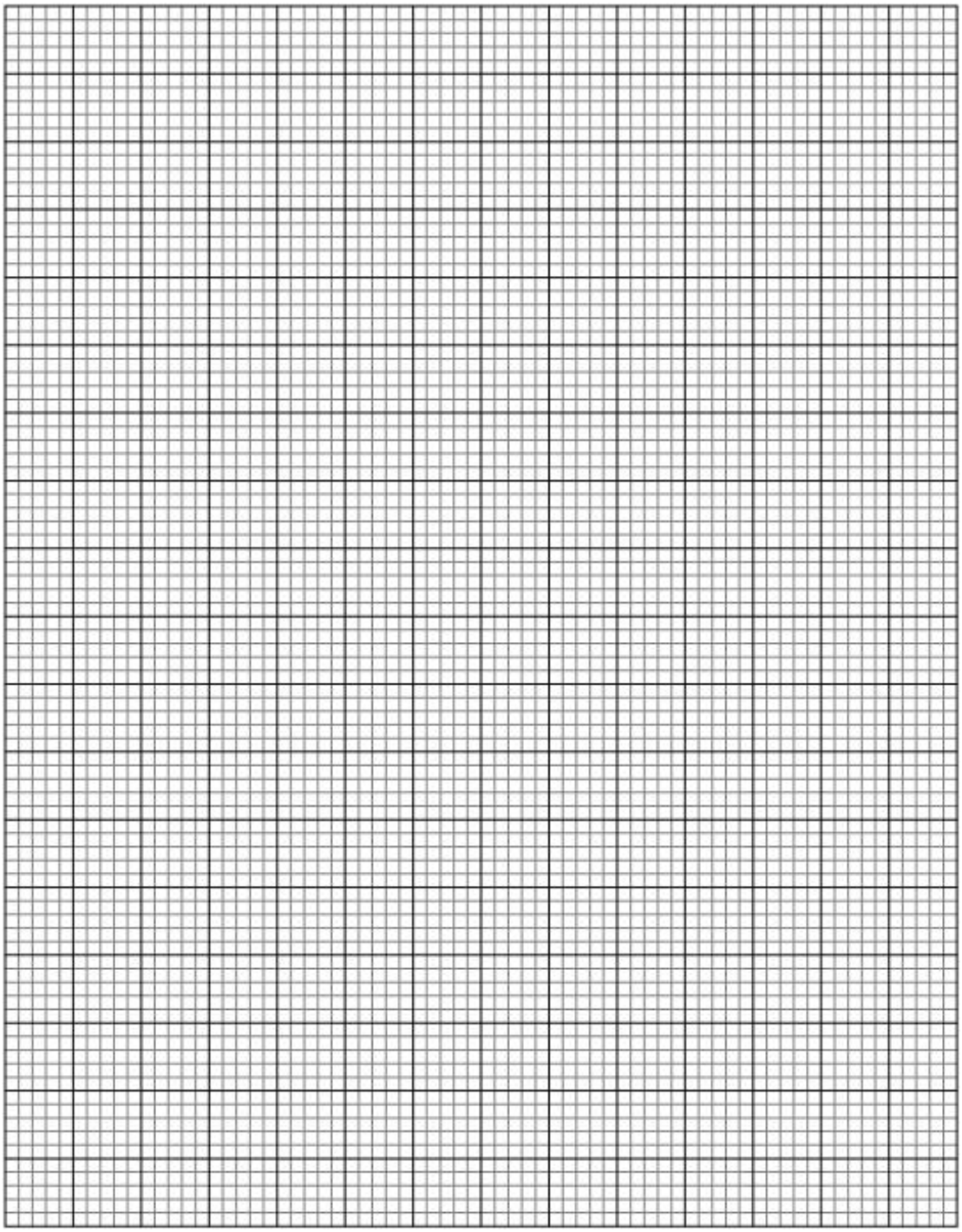
_____

_____

_____

Answer (_____ , _____)

[2 marks]



Q5.

Solve these equations.

$a + 12 = 24$

$a =$ _____

[1 mark]

$b - 12 = 24$

$b =$ _____

[1 mark]

Q6.

Complete the statements below.

When x is **8** , **4x** is _____

When x is _____ , **4x** is **48**

When x is **8** , _____ is **48**

[3 marks]

Q7.

Solve these equations.

$8k - 1 = 15$

$k =$ _____

[1 mark]

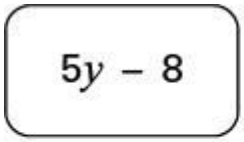
$2m + 5 = 10$

$m =$ _____

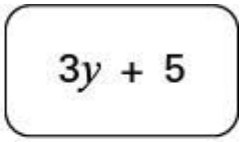
[1 mark]

Q8.

Look at these expressions.



first expression



second expression

(a) What value y of makes the two expressions equal?

You **must** show your working.

$y =$ _____

[2 marks]

(b) What value of y makes the first expression **twice** as great as the second expression?

You **must** show your working.

$y =$ _____

[2 marks]

Q9.

Solve these equations. You **must** show your working.

(a) $4 - 2y = 10 - 6y$

_____

_____

_____

_____

$y =$ _____

[2 marks]

(b) $5y + 20 = 3(y - 4)$

_____

_____

_____

_____

$y =$ _____

[2 marks]

Q10.

Look at this equation.

$$a + b = 7$$

Write three **different** solutions to the equation.

$a =$ _____ $b =$ _____

$a =$ _____ $b =$ _____

$a =$ _____ $b =$ _____

[2 marks]

Q11.

A taxi driver uses this formula to work out the price of a journey, in pounds.

Price of journey = 3 + 2 × distance in miles

(a) A journey is 12 miles.

What is the price of the journey?

£ _____

[2 marks]

(b) Leah has £5

The journey to her home is 2.5 miles.

She asks the taxi driver to take her as near to home as possible.

How far will she need to walk to arrive home?

Answer _____ miles

[3 marks]

Q12.

Multiply out $7(x - 1)$

Answer _____

[1 mark]

Q13.

Multiply out and simplify $5(x + 3) – 3 (x + 2)$

Answer _____

[2 marks]

Q14.

(a) Expand and simplify $(x + 3)(x - 8)$

Answer _____

[2 marks]

(b) Expand and simplify $(x - 5)^2$

Answer _____

[2 marks]

Q15.

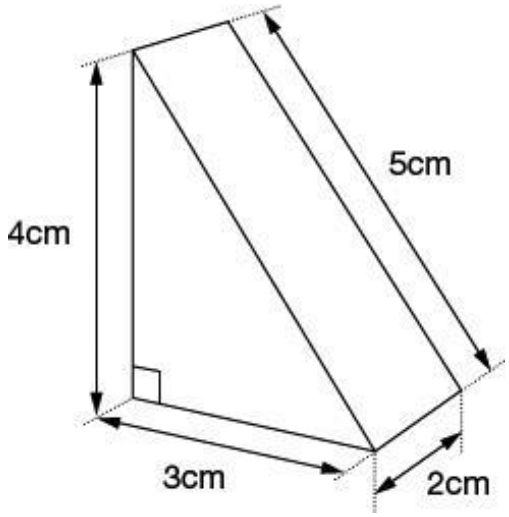
Circle **all** the **prime factors** of 30

2 3 5 6 10

[1 mark]

Q16.

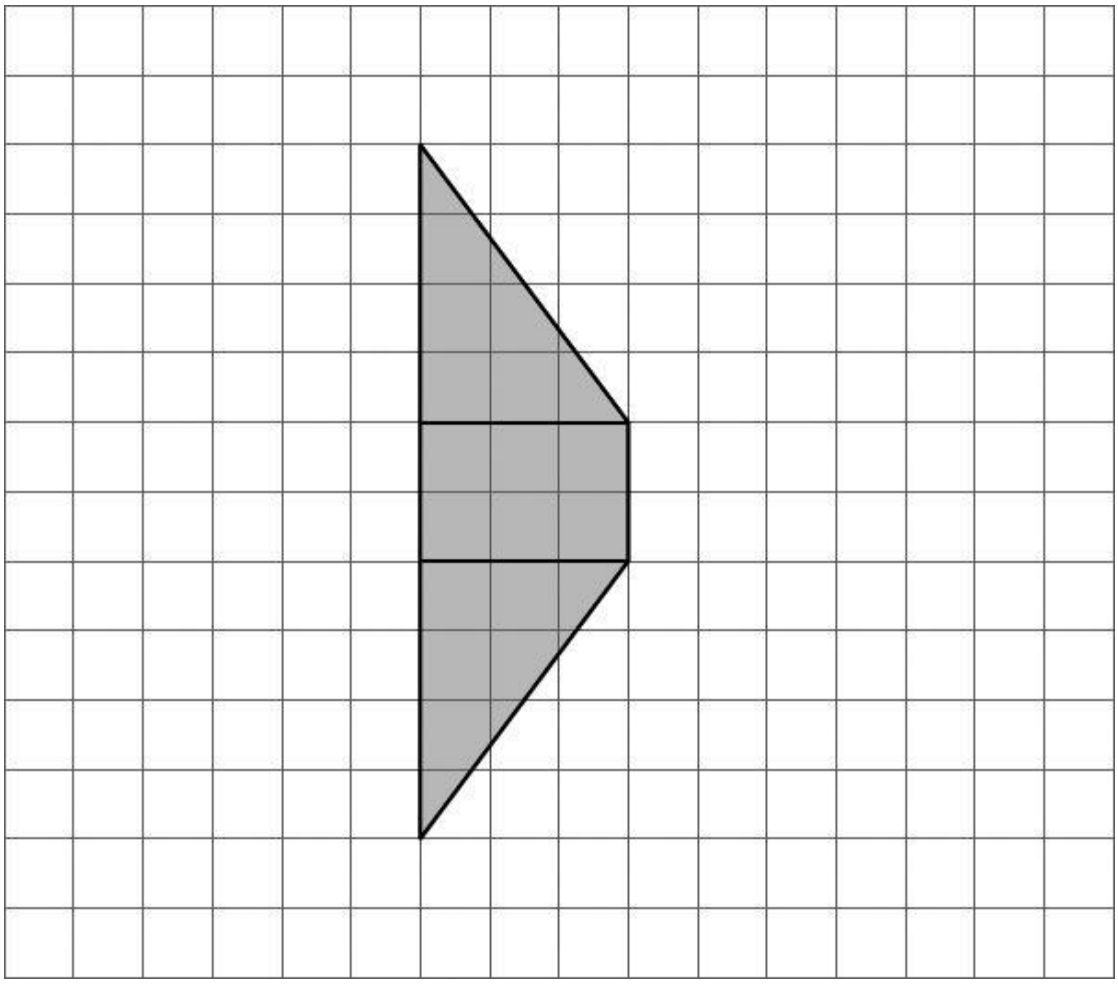
The diagram shows a prism.



Not drawn accurately

The centimetre square grid below shows part of the net for the prism.

Complete the **net accurately**.



[2 marks]

Q17.

Here is part of a questionnaire.

How old are you?

☐ *less than 18 years old* ☐ *more than 18 years old*

(a) Alice is 18 years old.
Explain why Alice cannot fill in this part of the questionnaire.

_____

_____

[1 mark]

(b) Change the questionnaire so that everyone can fill it in.

How old are you?

☐ *less than 18 years old* ☐ _____

[1 mark]

Q18.

(a) There are two children in the Smith family.
The **range** of their ages is **exactly 7 years**.

What could the ages of the two children be?
Give an example.

_____

_____

Answer _____ and _____

[1 mark]

(b) There are two children in the Patel family.
They are twins of the **same age**.

What is the **range** of their ages?

_____

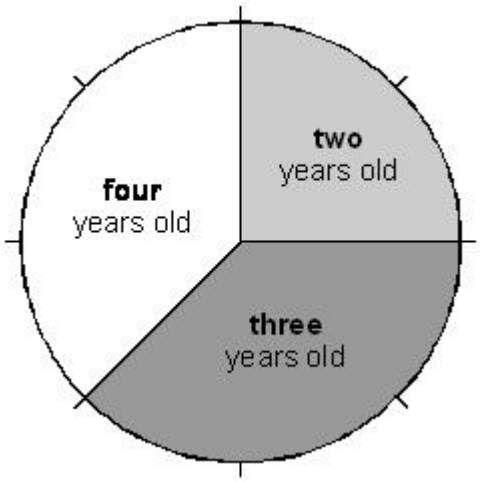
_____

Answer _____ years

[1 mark]

Q19.

The pie chart shows information about children who go to a nursery school.



Altogether, **80 children** go to the nursery school.

(a) **How many** of the 80 children are **two** years old?

_____

_____

Answer _____

[1 mark]

(b) **How many** of the 80 children are **four** years old?

_____

_____

Answer _____

[1 mark]