AQA - Algebra – GCSE Mathematics Paper_2

1. June/2021/Paper_2F/No.2

y is 3 more than x.

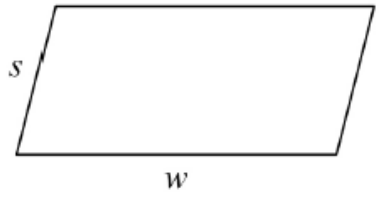
Circle the correct equation.

[1 mark]

$y = 3x$ $\quad$ $y = x + 3$ $\quad$ $y = x - 3$ $\quad$ $y = \frac{x}{3}$

2. June/2021/Paper_2F/No.4

Here is a parallelogram.



Circle the expression for the **perimeter**.

[1 mark]

$2s + 2w$ $\quad$ $s + w$ $\quad$ sw $\quad$ $2sw$

3. June/2021/Paper_2F/No.13

Factorise fully $50x + 100$

[2 marks]

Answer _____

4. June/2021/Paper_2F/No.22

The square root of x is 4

Circle the value of x^2

[1 mark]

256 2 16 8

5. June/2021/Paper_2F/No.25

Rearrange $g = 3h - 1$ to make h the subject.

[2 marks]

Answer _____

6. June/2021/Paper_2F/No.28

p is a positive number.

n is a negative number.

For each statement, tick the correct box.

[4 marks]

	Always true	Sometimes true	Never true
$p + n$ is positive	☐	☐	☐
$p - n$ is positive	☐	☐	☐
$p^2 + n^2$ is positive	☐	☐	☐
$p^3 \div n^3$ is positive	☐	☐	☐

7. June/2021/Paper_2F/No.31

A straight line

has gradient 6

and

passes through the point (3, 19)

Work out the equation of the line.

Give your answer in the form $y = mx + c$

[3 marks]

Answer _____

8. June/2021/Paper_2H/No.1

Circle the factor of $x^2 - 5x$

[1 mark]

$x - 1$ $\quad -5x$ $\quad x - 5$ $\quad 5x$

9. June/2021/Paper_2H/No.10

p is a positive number.

n is a negative number.

For each statement, tick the correct box.

[4 marks]

	Always true	Sometimes true	Never true
$p + n$ is positive	☐	☐	☐
$p - n$ is positive	☐	☐	☐
$p^2 + n^2$ is positive	☐	☐	☐
$p^3 \div n^3$ is positive	☐	☐	☐

10. June/2021/Paper_2H/No.13

A straight line

has gradient 6

and

passes through the point (3, 19)

Work out the equation of the line.

Give your answer in the form $y = mx + c$

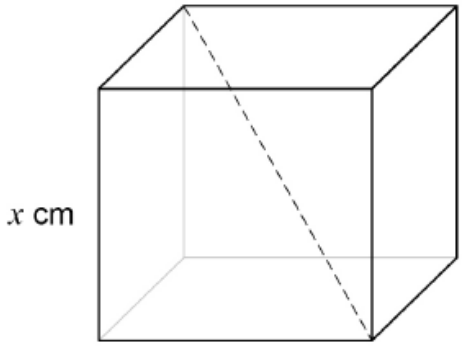
[3 marks]

Answer _____

11. June/2021/Paper_2H/No.16

Here is a cube with edge length x cm

One diagonal is shown.



(a) Circle the length, in centimetres, of the diagonal.

[1 mark]

$\sqrt{3}\,x$ $\sqrt[3]{3x^2}$ $\sqrt{x^3}$ $\sqrt[3]{3}\,x$

(b) The total length, in centimetres, of the edges of the cube is a multiple of 18

Circle the correct statement.

[1 mark]

x is a whole number	x is not a whole number	x might be a whole number

12. June/2021/Paper_2H/No.21

x is an integer.

Prove that $35 + (3x + 1)^2 - 2x(4x - 3)$ is a square number.

[4 marks]

13. June/2021/Paper_2H/No.24

The flight of a plane was in two stages.

The table shows information about the flight.

	Distance (miles)	Speed (mph)	Time (hours)
1st stage	731	x	$\frac{731}{x}$
2nd stage	287	$x - 24$	$\frac{287}{x - 24}$

In total, the flight lasted 2 hours.

Work out the value of x.

[5 marks]

Answer _____

14. June/2021/Paper_2H/No.25

The equation of a curve is $y = x^2 + 14x + 52$

By completing the square, work out the coordinates of the turning point.

You **must** show your working.

[3 marks]

Answer (_____ , _____)