

GCSE to A-level Maths Transition

Name:

Quadratics (1)

Q1. Circle the **two** roots of $(x - 5)(x + 3) = 0$

-5

-3

3

5

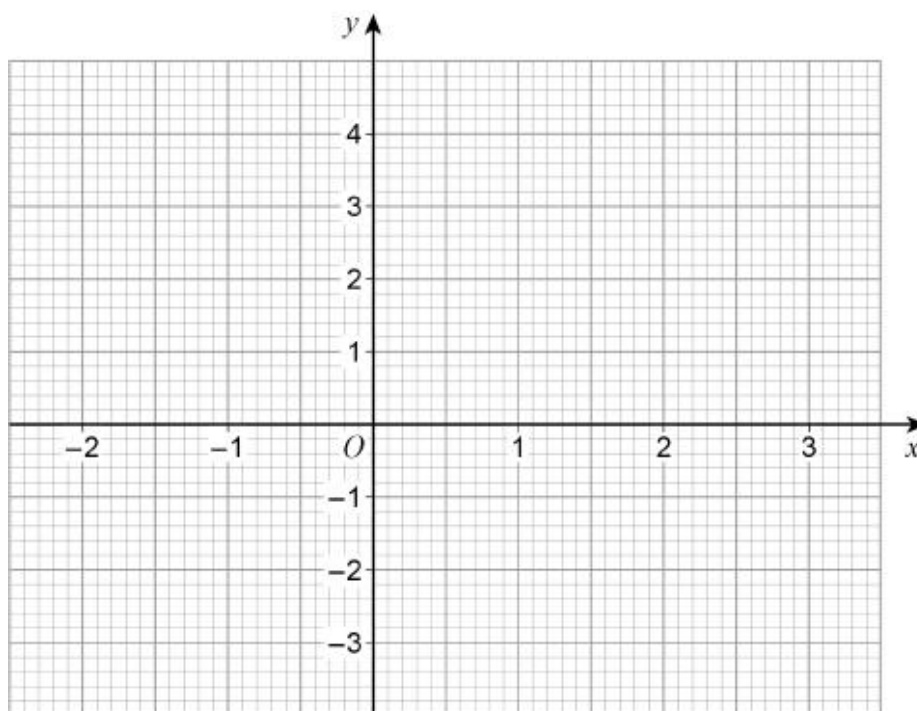
(Total 1 mark)

Q2. (a) Complete the table of values for $y = x^2 - x - 2$

x	-2	-1	0	1	2	3
y			-2	-2		4

(2)

(b) Draw the graph of $y = x^2 - x - 2$ for values of x from -2 to 3



(2)

(c) Write down the x -coordinate of the turning point of the graph.

Answer _____

(1)

(Total 5 marks)

Q3. The equation of a curve is $y = (x + 3)^2 + 5$

Circle the coordinates of the turning point.

(5, 3)

(5, -3)

(3, 5)

(-3, 5)

(Total 1 mark)

Q4. (a) Write $x^2 + 6x + 10$ in the form $(x + a)^2 + b$

Answer _____

(2)

(b) Hence, write down the coordinates of the turning point of the curve $y = x^2 + 6x + 10$

Answer (_____)

(1)

(Total 3 marks)

Q5. (a) Factorise $x^2 + 5x - 24$

Answer _____

(2)

(b) Solve $x^2 + 5x - 24 = 0$

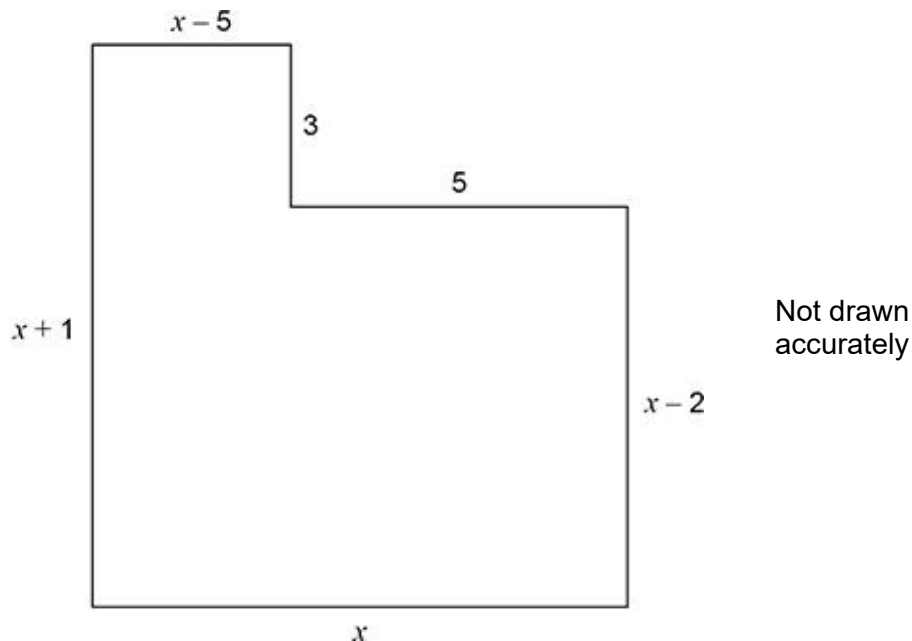
Answer _____

(1)

(Total 3 marks)

Q6. Here is the plan of the floor of an L-shaped room.

All lengths are in metres.



(a) The area of the floor is 75 m^2

Show that $x^2 + x - 90 = 0$

(3)

(b) By factorising $x^2 + x - 90$ work out the value of x .

You **must** show your working

$x =$ _____

(2)

(Total 5 marks)

Q7. The expression $\frac{x^2 - 9}{x^2 + bx - 15}$ simplifies to $\frac{x + 3}{x + 5}$

Work out the value of b .

$b =$ _____

(Total 3 marks)

Q8. Solve the quadratic equation

$$6x^2 + 2x - 5 = 0$$

Give your answers to 2 decimal places.

Answer _____

(Total 3 marks)

Q9. Solve the equation $\frac{5}{x+2} + \frac{4}{x+1} = 2$

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Answer _____

(Total 6 marks)