

THE QUADRATIC FORMULA

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

1.

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

3.

$$x^2 - 4x - 5 = 0$$

5.

$$4x^2 - 12x + 9 = 0$$

7.

$$x^2 + 6x + 10 = 0$$

9.

$$3x^2 + 7x - 6 = 0$$

2.

$$2x^2 - 7x + 3 = 0$$

4.

$$3x^2 + 10x - 8 = 0$$

6.

$$5x^2 + 2x - 7 = 0$$

8.

$$2x^2 - 5x + 1 = 0$$

10.

$$x^2 - 8x + 15 = 0$$

MASTER QUESTIONS



M1.

A rectangular garden has an area of 54m^2 and its length is 3m more than its width. Find the dimensions of the garden.

M2.

A ball is thrown upwards from a height of 2m with an initial velocity of 15m/s.

The height h after t seconds is given by $h = -5t^2 + 15t + 2$. When does the ball hit the ground?

M3.

The product of two consecutive odd numbers is 143. Find the numbers.

M4.

A right-angled triangle has a hypotenuse of 13cm and an area of 30cm^2 . Find the lengths of the other two sides.

M5.

A company's profit P in thousands of pounds is given by $P = -2x^2 + 40x - 150$, where x is the number of units sold. How many units must be sold to break even?