

Solving Quadratic Equations (C) by Formula



Section A

Write down the values of a , b and c in each case then solve the equation using the quadratic formula. Leave answers to 2 decimal places.

$$x^2 + 3x - 1 = 0$$

$$a = \underline{\quad}$$

$$b = \underline{\quad}$$

$$c = \underline{\quad}$$

Answer:

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

$$a = \underline{\quad}$$

$$b = \underline{\quad}$$

$$c = \underline{\quad}$$

Answer:

$$8x^2 - 7 = 0$$

$$a = \underline{\quad}$$

$$b = \underline{\quad}$$

$$c = \underline{\quad}$$

Answer:

Section B

Solve the following equations to 2 decimal places.

1) $4x^2 + 9x + 1 = 0$

2) $x^2 - 8x + 1 = 0$

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

4) $3x^2 - 4x - 5 = 0$

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

6) $4 - 3x - 2x^2 = 0$

7) $2x^2 - 2x = 7x$

8) $x(2x + 5) = 10$

9) $(x - 1)^2 = 17$

10) $2(3 - x) = (4x + 3)^2 + 6$

Extension

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

A. What happens when you try to solve the equation above using the quadratic formula?

B. How does the value of $b^2 - 4ac$ explain your answer to part A.

C. What conditions involving a , b , and c for $ax^2 + bx + c = 0$ cause:

- No solutions
- Two solutions
- One solution