

SOLVE BY COMPLETING THE SQUARE

Task 1 – For each of the following, solve by completing the square.

1) $x^2 + 6x = 0$

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

3) $x^2 + 9x = 0$

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

Challenge

15) Solve the equation

$$x^2 - 4ax + (a^2 - 1) = 0$$

for x by completing the square. Give your solutions in terms of a .

Task 2 – Solve by completing the square. Give your answers in fully simplified surd form.

5) $x^2 - 2x - 17 = 0$

6) $x^2 + 4x - 8 = 0$

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

Task 3 – Solve by completing the square. Give your answers to 2 decimal places.

8) $x^2 - 8x - 10 = 0$

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

10) $2x^2 - 4x - 5 = 0$

11) $3x^2 + 12x - 1 = 0$

12) $x^2 + 10x = -5$

13) $5x^2 - 20x - 1 = 0$

14) $-4x^2 - 24x = 12$