Quadratic Equations

N5 Relationships HW

Calculators are permitted but working must be shown.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Unit level:

1. Solve the equation $(x-1)(x+4) = 0$

2. Solve the equation $x^2 - 4x - 6 = 0$ rounding your answers correct to 1 d.p.

3. Given that $f(x) = 5 - x^2$, evaluate $f(-3)$

Assessment level:

4. Solve the equation $x^2 - 6x + 8 = 0$ by factorising.

5. Solve the equation $2x^2 - 5x - 3 = 0$ by factorising.

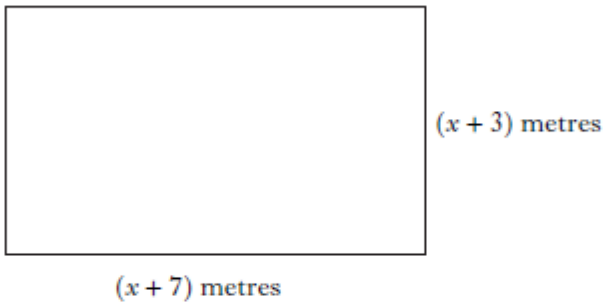
6. Solve the equation $3x^2 + 2x - 10 = 0$ to 2 significant figures.

7. The solution to the equation $x^2 - 2x - 6 = 0$ can be expressed in the form $x = d \pm \sqrt{e}$.
Find, **algebraically**, the values of d and e.

8. The diagram below represents a rectangular garden with length $(x+7)$ metres and breadth $(x+3)$ metres.

a. Show that the Area, A square metres, of the garden is given by

$$A = x^2 + 10x + 21$$



b. The area of the garden is $45m^2$, Find x