

MAT-048: Solving Quadratic Equations

1. Use the quadratic formula to solve the following equations.

(a) $x^2 - 2x - 1 = 0$

(b) $a^2 = -4a + 1$

(c) $x^2 - 6x + 2 = 0$

(d) $y^2 + 2y - 7 = 0$

(e) $t^2 - 10t = -13$

(f) $4x^2 = 4x + 7$

(g) $3y^2 - 6y + 2 = 0$

(h) $9t^2 + 12t - 1 = 0$

(i) $x^2 + x + 1 = 0$

(j) $w^2 = 2w + 49$

Solutions

1.

(a) $1 \pm \sqrt{2}$

(b) $-2 \pm \sqrt{5}$

(c) $3 \pm \sqrt{7}$

(d) $-1 \pm 2\sqrt{2}$

(e) $5 \pm 2\sqrt{3}$

(f) $\frac{1}{2} \pm \sqrt{2}$

(g) $1 \pm \frac{1}{3}\sqrt{3}$

(h) $-\frac{2}{3} \pm \frac{1}{3}\sqrt{5}$

(i) No real solution

(j) $1 \pm 5\sqrt{2}$