

Quadratics

Complete the square then solve...

1. $x^2 + 6x + 7 = 0$

2. $x^2 + 10x + 25 = 0$

3. $2x^2 + 8x + 5 = 0$

4. $2x^2 + 6x + 6 = 5$

5. $x(2x + 5) + 10 = 3$

Factorise and solve...

1. $x^2 + 7x + 12 = 0$

2. $3x^2 + 10x + 7 = 0$

3. $4x^2 - 17x - 15 = 0$

4. $100x^2 + 60x + 10 = 1$

5. $x(15x - 4) = 4$

Quadratic formula to solve...

1. $x^2 + 6x - 5 = 0$

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

3. $3x^2 + 9x + 6 = 0$

4. $x(x - 2) = 2$

5. $2x^2 - 4x + 5 = 2$

Quadratics - Answers

Complete the square then solve...

1. $(x + 3)^2 - 2 = 0, x = -3 \pm \sqrt{2}$
2. $(x + 5)^2 = 0, x = \pm\sqrt{5}$
3. $2(x + 2)^2 - 3 = 0, x = -2 \pm \frac{\sqrt{3}}{2}$
4. $2(x + 5)^2 - \frac{5}{2} = 0, x = -5 \pm \frac{\sqrt{10}}{4}$
5. $2(x + \frac{5}{4})^2 + \frac{31}{8} = -\frac{5}{4} \pm \frac{\sqrt{62}}{8}$

Factorise and solve...

1. $(x + 3)(x + 4) = 0, x = -3, x = -4$
2. $(3x + 7)(x + 1) = 0, x = -1, x = -\frac{7}{3}$
3. $(x - 5)(4x + 3) = 0, x = 5, x = -\frac{3}{4}$
4. $(10x + 3)^2 = 0, x = -\frac{3}{10}$
5. $(3x - 2)(5x + 2) = 0, x = +\frac{2}{3}, x = -\frac{2}{5}$

Quadratic formula to solve...

1. $x = 0.74, x = -6.74$
2. $x = 1.5$ (*repeated roots*)
3. $x = -1, x = -2$
4. $x = 2.73, x = -0.73$
5. *No real roots*