

Quadratic Equations 2

Ex1 $x^2 + 5x + 6 = 0$
 $(x + 2)(x + 3) = 0$

+1 +6
-1 -6
+2 +3 ✓

Either $x + 2 = 0$ or $x + 3 = 0$
 $x = -2$ $x = -3$

Ex2 $x^2 - 11x + 24 = 0$
 $(x - 3)(x - 8) = 0$

+1 +24
-1 -24
+2 +12
-2 -12
+3 +8
-3 -8 ✓

Either $x - 3 = 0$ or $x - 8 = 0$
 $x = 3$ $x = 8$

Ex3 $x^2 + 3x - 18 = 0$
 $(x - 3)(x + 6) = 0$

+1 -18
-1 +18
+2 -9
-2 +9
+3 -6
-3 +6 ✓

Either $x - 3 = 0$ or $x + 6 = 0$
 $x = 3$ $x = -6$

Ex4 $x^2 - x - 12 = 0$
 $(x + 3)(x - 4) = 0$

+1 -12
-1 +12
+2 -6
-2 +6
+3 -4 ✓
-3 +4

Either $x + 3 = 0$ or $x - 4 = 0$
 $x = -3$ $x = 4$

Exercise Solve

$$1) x^2 + 7x + 10 = 0$$

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

$$3) x^2 + 5x - 14 = 0$$

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

$$5) x^2 + 8x + 7 = 0$$

$$6) x^2 - 7x + 6 = 0$$

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

$$8) x^2 - 9x - 10 = 0$$

$$9) x^2 + 9x + 20 = 0 \quad \begin{matrix} x = -4 \\ x = -5 \end{matrix}$$

$$10) x^2 - 9x + 8 = 0 \quad \begin{matrix} x = 1 \\ x = 8 \end{matrix}$$

$$11) x^2 + 6x - 7 = 0 \quad \begin{matrix} x = -7 \\ x = 1 \end{matrix}$$

$$12) x^2 - 3x - 4 = 0 \quad \begin{matrix} x = 4 \\ x = -1 \end{matrix}$$

$$13) x^2 + 4x + 4 = 0 \quad \begin{matrix} x = -2 \\ x = -2 \end{matrix}$$

$$14) x^2 - 8x + 12 = 0 \quad \begin{matrix} x = 6 \\ x = 2 \end{matrix}$$

$$15) x^2 + 10x - 11 = 0 \quad \begin{matrix} x = -11 \\ x = 1 \end{matrix}$$

$$16) x^2 - 2x - 15 = 0 \quad \begin{matrix} x = 5 \\ x = -3 \end{matrix}$$

$$17) \begin{matrix} x = -4 \\ x = -1 \end{matrix} x^2 + 5x + 4 = 0$$

$$18) \begin{matrix} x = 13 \\ x = 1 \end{matrix} x^2 - 14x + 13 = 0$$

$$19) \begin{matrix} x = -7 \\ x = 2 \end{matrix} x^2 + 5x - 14 = 0$$

$$20) \begin{matrix} x = 7 \\ x = -3 \end{matrix} x^2 - 4x - 21 = 0$$

$$21) x^2 + 11x + 30 = 0 \quad \begin{matrix} x = -5 \\ x = -6 \end{matrix}$$

$$22) x^2 - 12x + 20 = 0 \quad \begin{matrix} x = 10 \\ x = 2 \end{matrix}$$

$$23) x^2 + 27x - 28 = 0 \quad \begin{matrix} x = -28 \\ x = 1 \end{matrix}$$

$$24) x^2 - 3x - 28 = 0 \quad \begin{matrix} x = 7 \\ x = -4 \end{matrix}$$

Solutions

$$1) x^2 + 7x + 10 = 0 \\ (x+2)(x+5) = 0$$

$$\text{Entw } x+2=0 \quad \text{or } x+5=0 \\ \underline{x = -2} \quad \underline{x = -5}$$

$$2) x^2 - 5x + 4 = 0 \\ (x-1)(x-4) = 0$$

$$\text{Entw } x-1=0 \quad \text{or } x-4=0 \\ \underline{x = 1} \quad \underline{x = 4}$$

$$3) \quad x^2 + 5x - 14 = 0$$
$$(x - 2)(x + 7) = 0$$

Either $x - 2 = 0$ or $x + 7 = 0$

$$\underline{x = 2} \qquad \underline{x = -7}$$

$$5) \quad x^2 + 8x + 7 = 0$$
$$(x + 1)(x + 7) = 0$$

Either $x + 1 = 0$ or $x + 7 = 0$

$$\underline{x = -1} \qquad \underline{x = -7}$$

$$7) \quad x^2 + 2x - 3 = 0$$
$$(x - 1)(x + 3) = 0$$

Either $x - 1 = 0$ or $x + 3 = 0$

$$\underline{x = 1} \qquad \underline{x = -3}$$

$$4) \quad x^2 - 2x - 8 = 0$$
$$(x + 2)(x - 4) = 0$$

Either $x + 2 = 0$ or $x - 4 = 0$

$$\underline{x = -2} \qquad \underline{x = 4}$$

$$6) \quad x^2 - 7x + 6 = 0$$
$$(x - 1)(x - 6) = 0$$

Either $x - 1 = 0$ or $x - 6 = 0$

$$\underline{x = 1} \qquad \underline{x = 6}$$

$$8) \quad x^2 - 9x - 10 = 0$$
$$(x + 1)(x - 10) = 0$$

Either $x + 1 = 0$ or $x - 10 = 0$

$$\underline{x = -1} \qquad \underline{x = 10}$$