SOLVING QUADRATIC EQUATIONS BY FACTORISING (1) EXERCISE

Solve the following equations by factorising:

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

2) $x^2 + 11x + 24 = 0$

3) $x^2 + 15x + 14 = 0$

4) $x^2 - 10x + 9 = 0$

5) $x^2 - 12x + 20 = 0$

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

7) $x^2 - 4x - 12 = 0$

8) $x^2 - 3x - 18 = 0$

9) $x^2 + 10x - 11 = 0$

10) $x^2 - 7x - 30 = 0$

SOLVING QUADRATIC EQUATIONS BY FACTORISING (1) EXERCISE

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

+1 +10
-1 -10
+2 +5 ✓
-2 -5

$(x+2)(x+5) = 0$

Either $x + 2 = 0$

$\Rightarrow \underline{x = -2}$

or $x + 5 = 0$

$\Rightarrow \underline{x = -5}$

2) $x^2 + 11x + 24 = 0$

+1 +24
-1 -24
+2 +12
-2 -12
+3 +8 ✓
-3 -8
+4 +6
-4 -6

$(x+3)(x+8) = 0$

Either $x + 3 = 0$

$\Rightarrow \underline{x = -3}$

or $x + 8 = 0$

$\Rightarrow \underline{x = -8}$

3) $x^2 + 15x + 14 = 0$

+1 +14 ✓
-1 -14
+2 +7
-2 -7

$(x+1)(x+14) = 0$

Either $x + 1 = 0$

$\Rightarrow \underline{x = -1}$

or $x + 14 = 0$

$\Rightarrow \underline{x = -14}$

4) $x^2 - 10x + 9 = 0$

+1 +9
-1 -9
+3 +3
-3 -3

$(x-1)(x-9) = 0$

Either $x - 1 = 0$

$\Rightarrow \underline{x = +1}$

or $x - 9 = 0$

$\Rightarrow \underline{x = +9}$

5) $x^2 - 12x + 20 = 0$

+1 +20
-1 -20
+2 +10
-2 -10 ✓
+4 +5
-4 -5

$(x-2)(x-10) = 0$

Either $x - 2 = 0$

$\Rightarrow \underline{x = +2}$

or $x - 10 = 0$

$\Rightarrow \underline{x = +10}$

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

+1 -5
-1 +5 ✓

$(x-1)(x+5) = 0$

Either $x - 1 = 0$

$\Rightarrow \underline{x = +1}$

or $x + 5 = 0$

$\Rightarrow \underline{x = -5}$

SOLVING QUADRATIC EQUATIONS BY FACTORISING (1) — EXERCISE

7) $x^2 - 4x - 12 = 0$

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

$(x+2)(x-4) = 0$

$\Rightarrow x = -2$

or $x = +4$

8) $x^2 - 3x - 18 = 0$

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

$(x+3)(x-6) = 0$

$\Rightarrow x = -3$

or $x = +6$

9) $x^2 + 10x - 11 = 0$

$+1 \ -11$
$-1 \ +11$ ✓

$(x-1)(x+11) = 0$

$\Rightarrow x = +1$

or $x = -11$

10) $x^2 - 7x - 30 = 0$

$+1 \ -30$
$-1 \ +30$
$+2 \ -15$
$-2 \ +15$
$+3 \ -10$ ✓
$-3 \ +10$
$+5 \ -6$
$-5 \ +6$

$(x+3)(x-10) = 0$

$\Rightarrow x = -3$

or $x = +10$