Solving Quadratic Equations Which Require Rearrangement

Solve by factorisation:

(a) $x^2 + 4x = 5$

(b) $12 = x^2 - 4x$

(c) $x = x^2 - 20$

(d) $x^2 = 6x - 8$

(e) $9x = 22 - x^2$

(a) $x = 1, x = -5$

(b) $x = 6, x = -2$

(c) $x = 5, x = -4$

(d) $x = 4, x = 2$

(e) $x = -11, x = 2$

Solve by factorisation:

(a) $x^2 + 4x = 2x + 15$

(b) $11 + x^2 + 3x = 5 - 2x$

(c) $7 - 4x = x^2 - 10x$

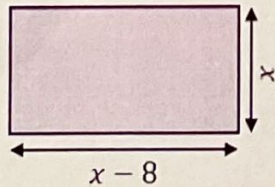(d) $2x^2 + 30 = x^2 + 13x$

(e) $4 + 5x - x^2 = 34 - 6x$

(a) $x = -5, x = 3$

(b) $x = -3, x = -2$

(c) $x = 7, x = -1$

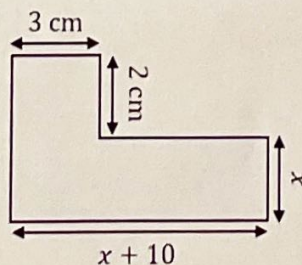(d) $x = 10, x = 3$

(e) $x = 6, x = 5$

Solve by factorisation:

(a) $x(x - 5) = 14$

(b) $25 + x = x(x + 1)$

(c) $3(x + 4) = x^2 + 2x$

(d) $x(x - 1) = 5(x + 2) + 6$

(e) $(x + 2)(x - 3) = 5x + 12$

(a) $x = 7, x = -2$

(b) $x = 5, x = -5$

(c) $x = 4, x = -3$

(d) $x = 8, x = -2$

(e) $x = 9, x = -3$

(a) Given that the area of the rectangle is $65\ cm^2$, form a quadratic equation and solve it to find x.

$x - 8$

(b) Given that the area of the compound shape is $45\ cm^2$, form a quadratic equation and solve it to find x.

3 cm

2 cm

$x + 10$

(a) $x(x - 8) = 65$

$x^2 - 8x - 65 = 0$

$(x - 13)(x + 5) = 0$

$x = 13, x = -5$

(b) $x(x + 10) + 6 = 45$

$x^2 + 10x - 39 = 0$

$(x + 13)(x - 3) = 0$

$x = -13, x = 3$