

Completing the Square - Section Test

- 1) The quadratic expression $x^2 + 4x + 5$ can be written in fully factorised form:

$$(x + \boxed{})^2 + \boxed{}$$

- 2) The quadratic expression $x^2 - 6x + 5$ can be written in the form:

$$(x - \boxed{})^2 - \boxed{}$$

- 3) The quadratic expression $4 + 2x - x^2$ can be written in the form:

$$- (x - \boxed{})^2 + \boxed{}$$

- 4) The quadratic expression $x^2 - 6x + 5$ can be written in the form:

(a) $3(x + 1)^2 - 2$

(b) $3(x + 1)^2 + 2$

(c) $3(x + 1)^2$

(d) $3(x + 2)^2 - 2$

- 5) The quadratic expression $4 - 8x - 2x^2$ can be written in the form:

$$- \boxed{} (x + \boxed{})^2 + \boxed{}$$

- 6) The quadratic expression $x^2 - 6x + 5$ can be written in the form:

(a) $2\left(x + \frac{3}{2}\right)^2 - \frac{7}{2}$

(b) $(2x + 3)^2 - 8$

(c) $2(x + 3)^2 - 8$

(d) $2\left(x + \frac{3}{2}\right)^2 - \frac{5}{4}$

7) $x^2 + ax + 1 = (x + 2)^2 - b$

What are the values of a and b ?

8) $4x^2 + bx + 30 = a(x + 3)^2 - c$

What are the values of a , b and c ?

9) $y = x^2 + 6x + 1$. Making x the subject of the formula gives:

(a) $x = \pm\sqrt{y+8} - 3$

(b) $x = \pm\sqrt{y-8} - 1$

(c) $x = \pm\sqrt{y-1} + 3$

(d) $x = \pm\sqrt{y+3} + 1$

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