

Worksheet E: Completing the square – spot the errors



$$\begin{aligned} 1) \quad & x^2 + 4x + 3 \\ & \equiv (x+2)^2 + 4 + 3 \\ & \equiv (x+2)^2 + 7 \end{aligned}$$

$$\begin{aligned} 2) \quad & x^2 - 3x + 6 \\ & \equiv (x-3)^2 - 9 + 6 \\ & \equiv (x-3)^2 - 3 \end{aligned}$$

$$\begin{aligned} 3) \quad & 2x^2 + 4x - 3 \\ & \equiv (2x+2)^2 - 4 - 3 \\ & \equiv (2x+2)^2 - 7 \end{aligned}$$

$$\begin{aligned} 4) \quad & 2x^2 + 6x + 4 \\ & \equiv 2(x^2 + 3x) + 4 \\ & \equiv 2\left(\left(x + \frac{3}{2}\right)^2 - \frac{9}{4}\right) + 4 \\ & \equiv 2\left(x + \frac{3}{2}\right)^2 - \frac{9}{4} + 4 \end{aligned}$$