(a) Express $2x^2 - 8x + 14$ in the form $2[(x - a)^2 + b]$. [2]

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The functions f and g are defined by

$$\mathrm{f}(x) = x^2 \quad \text{for } x \in \mathbb{R},$$
$$\mathrm{g}(x) = 2x^2 - 8x + 14 \quad \text{for } x \in \mathbb{R}.$$

(b) Describe fully a sequence of transformations that maps the graph of $y = \mathrm{f}(x)$ onto the graph of $y = \mathrm{g}(x)$, making clear the order in which the transformations are applied. [4]

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