

4 (a) Write $2x^2 + 6x + 7$ in the form $p(x + q)^2 + r$, where p , q and r are constants. **[3]**

(b) State the coordinates of the minimum point on the graph of $y = 2x^2 + 6x + 7$. **[2]**

(c) Hence deduce

- the minimum value of $2 \tan^2 \theta + 6 \tan \theta + 7$,
- the smallest positive value of θ , in degrees, for which the minimum value occurs. **[3]**