

- 8** A curve $y = f(x)$ has a stationary point at $P(3, -10)$. It is given that $f'(x) = 2x^2 + kx - 12$, where k is a constant.
- (i) Show that $k = -2$ and hence find the x -coordinate of the other stationary point, Q . [4]
- (ii) Find $f''(x)$ and determine the nature of each of the stationary points P and Q . [2]
- (iii) Find $f(x)$. [4]