10 A curve has equation $y = 2x^2 - 3x$.

(i) Find the set of values of x for which $y > 9$. [3]

(ii) Express $2x^2 - 3x$ in the form $a(x + b)^2 + c$, where a, b and c are constants, and state the coordinates of the vertex of the curve. [4]

The functions f and g are defined for all real values of x by

$$\mathrm{f}(x) = 2x^2 - 3x \quad \text{and} \quad \mathrm{g}(x) = 3x + k,$$

where k is a constant.