

8 **(a)** Determine the **two** values of k for which the line $y = 3x + 5$ is a tangent to the curve $y = k - kx - x^2$. **[4]**

(b) These values of k are used to define two curves of the form $y = k - kx - x^2$.

Determine the coordinates of the point of intersection of these two curves. **[3]**