5 The curves $y = x^2$ and $y^2 = 27x$ intersect at $O(0, 0)$ and at the point A. Find the equation of the perpendicular bisector of the line OA. [8]

6 Variables x and y are such that $y = e^{\frac{x}{2}} + x\cos 2x$, where x is in radians. Use differentiation to find the approximate change in y as x increases from 1 to $1 + h$, where h is small. [6]