**1** The point $A$ has coordinates (1, 4) and the point $B$ has coordinates (5, 6). The perpendicular bisector of $AB$ intersects the $x$-axis at the point $C$ and the $y$-axis at the point $D$. Given that $O$ is the origin, find the area of triangle $OCD$. [5]

**2** Given that the equation $kx^2 + (2k-1)x + k + 1 = 0$ has no real roots, find the set of possible values of $k$. [4]