3 The points A, B and C have coordinates (2, 6), (6, 1) and (p, q) respectively. Given that B is the mid-point of AC, find the equation of the line that passes through C and is perpendicular to AB. Give your answer in the form $ax + by = c$, where a, b and c are integers. [5]

4 **(a)** Find the range of values of x satisfying the inequality $(5x-1)(6-x) < 0$. [2]

(b) Show that the equation $(2k+1)x^2 - 4kx + 2k - 1 = 0$, where $k \neq -\frac{1}{2}$, has distinct, real roots. [3]