

3 The quadratic equation $kx^2 + 2kx + 2k = 3x - 1$, where k is a constant, has no real roots.

(a) Show that k satisfies the inequality

$$4k^2 + 16k - 9 > 0. \quad [4]$$

(b) Hence find the set of possible values of k . Give your answer in set notation. [2]