Quadratics – Questions

Q1) Determine the value(s) of k if the equation has equal roots.

a) $x^2 - kx + 16 = 0$

b) $kx^2 - 4x + k - 3 = 0$

c) $x^2 - 2kx + 5k = 0$

d) $(2k + 1)x^2 + 12x + k = 0$

Q2) Determine the range of values of k if the equation has real roots.

a) $3x^2 - 4x + 1 + k = 0$

b) $kx^2 - 6x + 3 = 0$

c) $kx^2 - 4x + 3 + k = 0$

d) $(k + 1)x^2 - 4kx + k = 0$

Q3) Determine the range of values of k if the equation has no real roots.

a) $x^2 + 6x + 9 + k = 0$

b) $x^2 + kx - k = 0$

Quadratics – Solutions

Q1) a) $k = -8, k = 8$

b) $k = -1, k = 4$

c) $k = 0, k = 5$

d) $k = -\frac{9}{2}, k = 4$

Q2) a) $k < \frac{1}{3}$

b) $k < 3$

c) $k < -4, k > 1$

d) $k < 0, k > \frac{1}{3}$

Q3) a) $k > 0$

b) $k < -4, k > 0$