

Name : _____

Nature of the Roots

1) If the quadratic equation $5t^2 + 7t + \frac{1}{5}z = 0$ has equal roots, then find the value of z.

2) Find the possible values of z if the quadratic equation $z^2 + 2z + 1 = 0$ has equal roots.

3) If the quadratic equation $x^2 + 2x + v = 0$ has equal roots, find the possible values for v.

4) Identify the value of k if the quadratic equation $kx^2 + 2x + 1 = 0$ has equal roots.

5) If the equation $4q^2 + \sqrt{8}uq + 6 = 0$ has unequal real roots, find the possible values for u.

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Answer key

Sheet 2

Nature of the Roots

- 1) If the quadratic equation $5t^2 + 7t + \frac{1}{5}z = 0$ has equal roots, then find the value of z .

$$z = \frac{49}{4}$$

- 2) Find the possible values of k if the roots of the equation $x^2 + kx + 1 = 0$ are real and equal.

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- 3) If the quadratic equation $x^2 + 2x + k = 0$ has real and equal roots, find the possible values for k .

- 4) Identify the value of m if the roots of the equation $x^2 + mx + 1 = 0$ are real and equal.

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$$m = -2$$

- 5) If the equation $4q^2 + \sqrt{8}uq + 6 = 0$ has unequal real roots, find the possible values for u .

$$u < -2\sqrt{3} ; u > 2\sqrt{3}$$