

Name : _____

Nature of the Roots

1) If the quadratic equation $16v^2 + 7pv + 49 = 0$ has equal roots, then find the values of p.

2) Find the possible values of p, if the roots of the equation $x^2 + px + 1 = 0$ are reciprocals of each other.

3) If $zs^2 + 10\sqrt{3}s + 3 = 0$ has equal roots, find the possible values for z.

4) Find the values of q, if the roots of the equation $x^2 + qx + 1 = 0$ are complex roots.

5) For what values of s, the roots of $3x^2 + sx + 9 = 0$ are real and unequal?

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Answer key

Nature of the Roots

Sheet 1

- 1) If the quadratic equation $16v^2 + 7pv + 49 = 0$ has equal roots, then find the values of p .

$$p = -8 ; p = 8$$

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

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- 3) If $zs^2 + 10\sqrt{3}s + 3 = 0$ has equal roots, find the possible values for z .

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- 4) Find the values of q for which the roots of the equation $x^2 + qx + 1 = 0$ are complex roots.

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$$q > \frac{4}{3}$$

- 5) For what values of s , the roots of $3x^2 + sx + 9 = 0$ are real and unequal?

$$s < -6\sqrt{3} ; s > 6\sqrt{3}$$