Worksheet 4

1. Which equation has imaginary roots?

$x^2 - 9 = 0$

$x^2 - x + 1 = 0$

$x^2 + 2x + 1 = 0$

$x^2 - 1 = 0$

2. What is the nature of the roots of

$4x^2 - 4x + 1 = 0$?

3. The roots of a quadratic equation may be

imaginary and equal
rational and equal
irrational and equal
all of the above

4. Which equation has real, rational roots that are equal roots?

$x^2 + x + 1 = 0$

$x^2 - x + 1 = 0$

$x^2 + 2x + 1 = 0$

$x^2 - 1 = 0$

5. Which of the following could not be the roots of a quadratic equation?

$\{4, -5\}$
$\{3\}$
$\{2i, -2i\}$
$\{3 + 4i\ ,\ -3 - 4i\}$