Name : _____

Nature of the Roots

MS1

For the quadratic equation $ax^2 + bx + c = 0$,

If $b^2 - 4ac > 0$, the roots are real and unequal.

If $b^2 - 4ac = 0$, the roots are real and equal.

If $b^2 - 4ac < 0$, the roots are unreal(complex).

Find the nature of the roots using the discriminant.

1) $2n^2 + \sqrt{3}n - 8 = 0$

2) $3v^2 - 2v + 9 = 0$

3) $d^2 - 5d = -7$

5) $(2t - 1)(t - 3) = 0$

7) $3q^2 + \frac{4}{3} = -4q$

8) $y^2 - 8 = 0$

Name : _____

Answer key

Nature of the Roots

MS1

For the quadratic equation $ax^2 + bx + c = 0$,

If $b^2 - 4ac > 0$, the roots are real and unequal.

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Find the nature of the roots using the discriminant.

1) $2n^2 + \sqrt{3}n - 8 = 0$

$b^2 - 4ac = 67$

The roots ar

2) $3v^2 - 2v + 9 = 0$

)4 < 0

unreal(complex).

3) $d^2 - 5d = -7$

$b^2 - 4ac = -3$

The roots ar

real and equal.

5) $(2t - 1)(t - 3)$

$b^2 - 4ac = 25$

The roots ar

= 0

) < 0

unreal(complex).

7) $3q^2 + \frac{4}{3} = -4q$

$b^2 - 4ac = 0$

The roots are real and equal.

8) $y^2 - 8 = 0$

$b^2 - 4ac = 32 > 0$

The roots are real and unequal.