Name : _____

Nature of the Roots

MS3

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) $\frac{4}{5}d^2 - 4d + 5 = 0$

2) $w^2 - 2w + 6 = 0$

3) $-\sqrt{8}h = 3h^2 +$

5) $(s + 5)(s - 3)$

7) $4m(m - 1) = -1$

8) $0.5x^2 - 3 = 6x$

Name : _____

Answer key

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$b^2 - 4ac = 0$

The roots ar

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) < 0

unreal(complex).

3) $-\sqrt{8}h = 3h^2 +$

$b^2 - 4ac = -7$

The roots ar

> 0

real and unequal.

5) $(s + 5)(s - 3)$

$b^2 - 4ac = 64$

The roots ar

real and equal.

7) $4m(m - 1) = -1$

$b^2 - 4ac = 0$

The roots are real and equal.

8) $0.5x^2 - 3 = 6x$

$b^2 - 4ac = 42 > 0$

The roots are real and unequal.