

5.3 Re-Teach Worksheet
Intermediate Algebra

Name Key

5.3 I can determine the number of real and non-real solutions for a quadratic equation.

Determine how many solutions and the type of solutions the following problems have by finding the discriminant.

1. $2x^2 - 5x - 3 = 0$
 $a=2$ $(-5)^2 - 4(2)(-3)$
 $b=-5$
 $c=-3$
 Discriminant: 49

Number of solutions: 2

Type of solutions: Real

2. $x^2 + 10 = -6x$ $a=1$ $b^2 - 4(1)(10)$
 $x^2 + 10 + 6x = 0$ $b=6$
 $x^2 + 6x + 10 = 0$ $c=10$
 Discriminant: -4

Number of solutions: 2

Type of solutions: imag

3. $x^2 - 6x = -5$
 $x^2 - 6x + 5 = 0$
 $a=1$ $(-6)^2 - 4(1)(5)$
 $b=-6$
 $c=5$
 Discriminant: 16

Number of solutions: 2

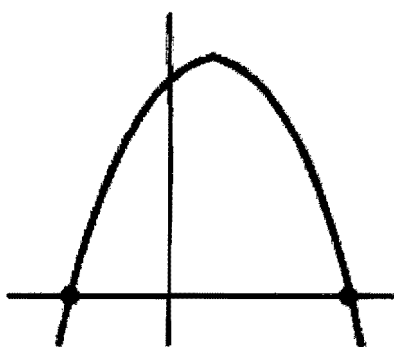
Type of solutions: Real

4. $16x^2 + 8x + 1 = 0$
 $a=16$ $b^2 - 4(16)(1)$
 $b=8$
 $c=1$
 Discriminant: 0

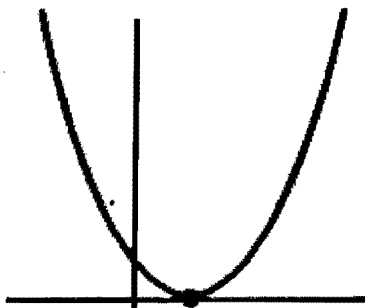
Number of solutions: 1

Type of solutions: Real

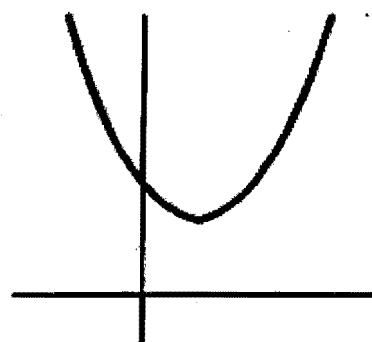
5. Label each of the following graphs with positive, negative, or zero discriminant.



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6. If the solutions to a quadratic equation are $x = 2 \pm i\sqrt{3}$ is the discriminant positive, negative, or zero? Explain.

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7. If a quadratic equation has 1 solution $x = 5$ is the discriminant positive, negative, or zero? Explain.

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8. The solutions to a quadratic equation are $x = \frac{3}{2}$ and $x = -2$. Is the discriminant positive, negative, or zero? Explain.

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