

Math 2
Unit 2B Test Review

Name Key

Solve the following by factoring.

1)	$x^2 = 15x - 56$ $x = 7$ $x = 8$	2)	$3x^2 + 14x - 49 = 0$ $x = -\frac{7}{3}$ $x = 7$
3)	$2x^2 - 14x = -3x$ $x = 0$ $x = \frac{11}{2}$	4)	$5x^2 = 35x - 60$ $x = 2$ $x = 5$

Solve the following using completing the square/square root method. Be sure to simplify all radicals.

5)	$(x + 3)^2 - 98 = 0$ $x = -3 \pm 7\sqrt{2}$	6)	$x^2 + 12x + 61 = 0$ $x = -6 \pm 5i$
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Solve the following using the quadratic formula. Be sure to simplify all radicals.

7)	$x^2 + 6x + 25 = 0$ $x = -3 \pm 4i$	8)	$-2x^2 + 8x + 3 = 0$ $x = \frac{4 \pm \sqrt{22}}{2}$
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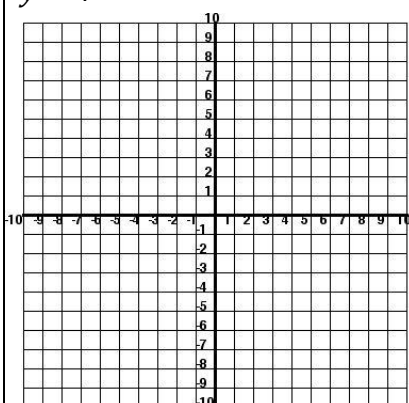
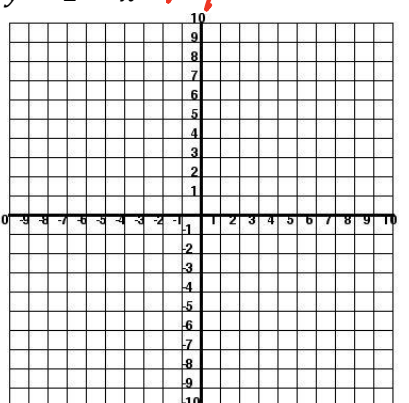
Write down the formula for the discriminant and what the value of the discriminant tells you about the number and types of solutions.

$b^2 - 4ac > 0$ 2 real roots

$b^2 - 4ac < 0$ 2 complex roots

$b^2 - 4ac = 0$ 1 real root

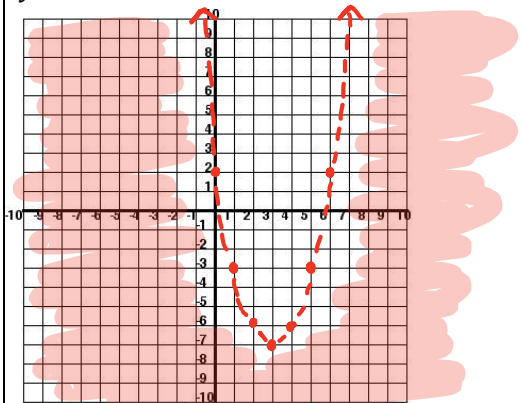
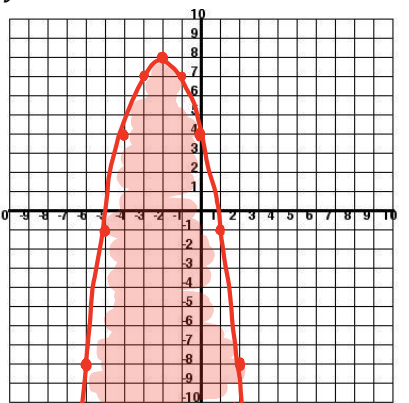
Solve the following systems by graphing.

<p>9) $y = x^2 + 6x$ $y = 7$</p> 	<p>10) $y = -x^2 + 2x + 7$ $y - 1 = x \rightarrow y = x + 1$</p> 
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Solve the following systems algebraically.

<p>11) $y = x^2 + 6x + 10$ $y = -2x - 6$</p> <p style="text-align: center; color: red;">$(-4, 2)$</p>	<p>12) $y = x^2 + 7x + 5$ $y - x = -3$</p> <p style="text-align: center; color: red;">$(-2, -5)$ $(-4, -7)$</p>
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Graph the following inequalities.

<p>13) $y < x^2 - 6x + 2$</p> 	<p>14) $y \leq -x^2 - 4x + 4$</p> 
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