A1 S2 w9d4 Chap 9 Review

Alg 1 **Note Organizer for Solving Quadratics** Name_____

Completing the Square

Directions →

Example 1: $x^2 - 4 = 14x$

1.
2.
3.
4.
5.
6.
7.
8.

Example 2: $10x - 24 = -x^2$

Graphing:

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Zero Product Property or

Solve by factoring:

$$2x^2 + 5x = 3$$

Quadratic Formula:

$$2x^2 + 5x = 3$$

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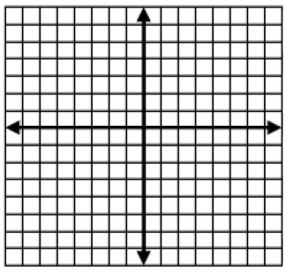
Alg 1 Week 9 Fri **Solving Quadratics 4 Ways # 2**

1. Solve by graphing:

$m^2 + 8m = -7$

What is the vertex_____



Solutions:_____

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2. Solve by completing the square.

$m^2 + 8m = -7$

Solutions:_____

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3. Solve using the quadratic formula.

$m^2 + 8m = -7$

Solutions:_____

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4. Solve by factoring and the zero product property. Check:

$m^2 + 8m = -7$

Solutions:_____

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Alg I Week 9 Friday **Chapter 9 Review #1**

1. Find the vertex: $y = 3x^2 + 6x - 4$

2. Find the axis of symmetry: $y = -x^2 + 4x + 2$

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3. Solve by unsquaring:
   a) $x^2 - 49 = 0$ b) $2x^2 + 6 = 50$ c) $x^2 = 24$

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4. Solve by factoring:
   a) $x^2 - 9x + 8 = 0$ b) $w^2 - 3w = 10$ c) $2c^2 + 4c - 6 = 0$

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5. Solve by completing the square.
   a) $(x+5)^2 - 4 = 0$ b) $y^2 + 12y = 5$ c) $z^2 + 8z + 15 = 0$

Scrambled answers:

$\{-5,-3\}, \{\pm 2\sqrt{6}\}, \{-7,-3\}, \{1, 8\}, \{\pm 7\}, x = 2, (-1,-7), \{\pm\sqrt{22}\}, \{-2,5\}, \{-3,1\}, \{-6 \pm \sqrt{41}\}$

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6. In slope-intercept form, write the equation of the line that passes through the following points:
   a) (-1,8) and (2,-1)
   b) (4,8) and (-5,8)

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7. Solve:
   a) $\frac{3x-8}{5}=\frac{2x+5}{7}$
   b) 12-(5-2x)+8x=6-2(x+1)
   c) $\begin{cases} 4x-5y=7 \\ 3x-4y=5 \end{cases}$
   d) $\begin{cases} y=2x-1 \\ 3x-2y=0 \end{cases}$

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8. Simplify.
   a) $\frac{(x^3)^{-4}\bullet x^7}{x\bullet x^2}$
   b) $5(x-3)-(4x+9)+7x^2$
   c) $9+24\div 4\bullet 2-5+3^2$
   d) $\frac{3(2^3-5)^2+3}{14+8\div 2\bullet 4}$
   e) $\sqrt{180}$
   f) $\frac{9\pm\sqrt{54}}{6}$

Selected answers: $\{(2,3)\}, 1, \left\{-\frac{1}{4}\right\}, y=8, 6\sqrt{5}, \{(3,1)\}, \left\{\frac{81}{11}\right\}, \frac{3\pm\sqrt{6}}{2}, 25$