Algebra II Name _____

Quadratics Review #2

1. For $y = x^2 - 2x - 3$ (Do not use a graphing calculator.)
   a. If the graph opens up or down
   b. Coordinates of the vertex
   c. If the vertex is a maximum or minimum
   d. Equation of the axis of symmetry
   e. Coordinates of the y-intercept
   f. Factor and find the coordinates of the x-intercepts
   g. Graph the quadratics using the vertex, y-intercept and zeros.

2. Solve $-2x^2 + 16x = -29$ by graphing. Use your graphing calculator.

3. Solve $4(x + 2)^2 - 8 = 28$ by taking square roots.

4. Solve $3x^2 - 16 = 8x$ by factoring.

5. Solve $8a^2 + 6a = -5$ by using the quadratic formula.

6. Find the discriminant of $2x^2 = 10x + 5$. Describe the type of solution and number of x-intercepts

7. Simplify a. $(4 + 6i)^2$ b. $-3 + 6i - (-5 - 3i) - 8i$

8. Solve the system with your graphing calculator.

$$y + 3x^2 = -x + 2$$
$$y = x^2 + 2x + 1$$