Algebra 2
Unit 2 WS7

Name:_____
Date:_____
Period:_____

Directions: Please answer the following questions. **Show work!!**

1. Is (-8, 11) a solution to the system? $\begin{cases} 5x + 4y = 4 \\ -7x - 3y = 10 \end{cases}$

2. Solve $3x^2 + 8 = 35$

Simplify.

3. $4i\,(5i - 12)$

4. $\sqrt{-63}$

5. Perform the indicated operation, put the polynomial in standard form, and then fill in the blanks below.
$(7 + 4x^2 - 2x)(3 + x^2)$

Standard form:

Degree:

Leading coefficient:

Circle one: Monomial Binomial Trinomial Polynomial

6. Write an example of a polynomial equation with an even degree and negative leading coefficient.

7. Sketch the graph of the polynomial you wrote in #6.

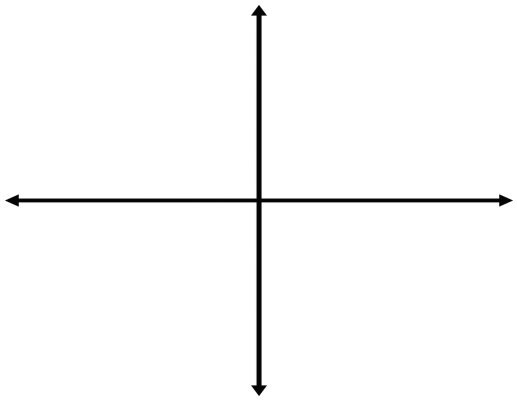
8. Write the equation of a polynomial with the real roots of 4, -1, and -3 and passes through (1, -6).

9. Sketch a polynomial with a degree of 7, 4 real roots, and a negative leading coefficient.

Imaginary roots:

Relative minimum(s):

Relative maximum(s):



Use a **graphing calculator** to find the following.

10. $y = x^3 - 8x^2 + x - 6$

Leading coefficient:

End behaviors:

Total number of roots:

# of Real Roots:

# of Imaginary Roots:

Find the Real Roots using your calculator:

# of Relative Min: Find them (you may have to adjust your window):

# of Relative Max: Find them (you may have to adjust your window):