Algebra 2
Unit 3 WS5

Name:_____
Date:_____
Period:_____

Directions: Please answer the following questions. **Show work!!**
Perform the indicated operation. Don't forget to list the restrictions.

1. $\frac{16x-32}{12x+18} \bullet \frac{4x^2-9}{6x^2+x-15}$

2. $\frac{12x-36}{x^2+9x-36}$

3. $\frac{5x+20}{x^2-16} - \frac{2}{x-4}$

4. $\frac{9x^2-16}{6x+8} \div \frac{15x-20}{30x-45}$

5. For $(18x^3 + 9x^2 - 11x + 1) \div (6x + 1)$, can you use synthetic division? Explain why or why not.

6. Divide
$(18x^3 + 9x^2 - 11x + 1) \div (6x + 1)$

7. Simplify.

a) $(12 - 9i) + (8i - 3)$ b) $(12 - 9i) - (8i - 3)$ c) $(12 - 9i)(8i - 3)$

8. For $f(x) = 2x^2 - 3x - 5$, find the following

a) vertex:

b) x-intercept(s):

c) y-intercept:

d) Sketch the graph.