Extra Review #4.1A

***Directions:*** Show all work in order to receive full credit. A correct answer with no supporting work will only receive one credit. Be sure to show all appropriate formulas and formula substitutions as part of your work.

1. Express in simplest form: 
2. Determine if $(x – 2)$ is a factor of $3x^{3}-4x+2$. Explain your answer.
3. Solve: $\frac{10}{2y+8}-\frac{7y+8}{y^{2}-16}=\frac{-8}{2y-8}$
4. Given the graph to the right,
	1. Determine all roots of the function.
	2. List all factors of the function.
	3. Write a possible equation for this function in **standard form**.
5. Given the graph of $f\left(x\right)= x^{3}+6x^{2}+13x+12$. Write the function as a product of its linear and quadratic factor.