Algebra 2 Name: _____

Operations with Rational Expressions – Day 2 Date: _____ Period: _____

Perform the indicated operation.

1.) $\frac{m-3n}{6m^3n} - \frac{m+3n}{6m^3n}$

2.) $\frac{6}{x-1} - \frac{5x}{4}$

3.) $\frac{3}{x+7} + \frac{4}{x-8}$

4.) $\frac{3}{4v^2+4v} - \frac{7}{2}$

5.) $\frac{5}{n+5} + \frac{4n}{2n+6}$

6.) $\frac{x^2-2x+3}{x^2+7x+12} - \frac{x^2-4x-5}{x^2+7x+12}$

7.) $\frac{7}{3x^2-6x} + \frac{x^2}{x^2-4x+4}$

8.) $\frac{k-4}{k^2+5x+6} + \frac{k-1}{k^2-4}$

9.) $\frac{x+2}{x-7} - \frac{x^2+4x+13}{x^2-4x-21}$

10.) $\frac{m+5}{m^2+3m-4} + \frac{m+2}{m^2-1}$

11.) $\frac{3t-2}{t^2+2t-24} - \frac{t-3}{t^2-16}$

12.) $2 + \frac{x}{x-3} - \frac{3}{x^2-9}$

13.) Building catapults in math classes this year really inspired Brad and Angelina to build a super-duper awesome catapult at home. Brangelina decide to be creative with their awe-inspiring catapult and climb to the highest point in Algonquin, the Algonquin water tower. From there, Brangelina decided to launch frogs at a velocity of 32 feet per second into the lake below. Brad who is really smart at figuring out parabolic calculations models the height of the frog to be the equation $f(x) = -16x^2 + 32x + 144$, where x represent the time in seconds and $f(x)$ is the height of the frog given in feet.

A.) What is the initial height of Brangelina's launch point?

B.) When will the frog reach its maximum height and what is the maximum height?

C.) When will the frog land safely in the lake?

D.) When will the frog reach a height of 80 feet?