

Name: \_\_\_\_\_

Period: \_\_\_\_\_

**Problem Solving #4**  
**Advanced Math Quarter 4**  
**Due Friday May 7<sup>th</sup>**

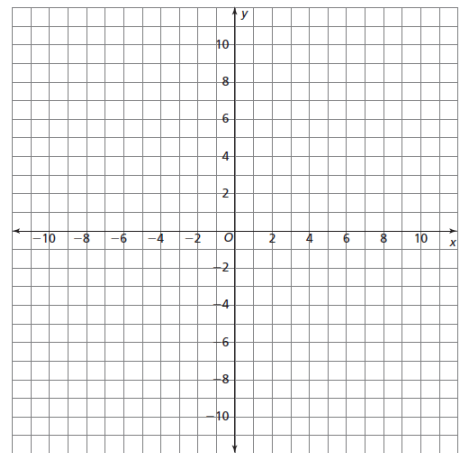
1. Expand the function  $f(x) = x^3 + 8x^2 + 5x - 50$  in powers of  $x + 4$

2. Graph the equation  $f(x) = \frac{2x}{x+4}$ . List all vertical asymptotes, horizontal asymptotes, and holes that occur in the graph as well.

Vertical Asymptotes:

Horizontal Asymptotes:

Hole:



3. You are purchasing a car to take to college that costs \$10,000. You decide to take out a 4 year loan from the bank at an interest rate of 6% per year. What will your monthly payments be?

