

Name \_\_\_\_\_

Homework 12

Section 3.3

1. (5) Divide  $P(x) = 6x^4 - 2x^3 + 29x^2 - 6x + 20$  by  $d(x) = 2x^2 + 7$ . Write  $P$  in the form  $P(x) = d(x)q(x) + r(x)$ .

2. (5) Find all of the intercepts and asymptotes of the graph of  $f(x) = \frac{3x + 1}{x + 2}$ . Be sure to label what type of intercept and asymptote each is.

3. (5) Find all of the intercepts and asymptotes of the graph of  $g(x) = \frac{2(x+1)(x-3)}{x^2+3x+2}$ .  
Be sure to label what type of intercept and asymptote each is.

4. (5) Write a formula for the function whose graph is shown below.

