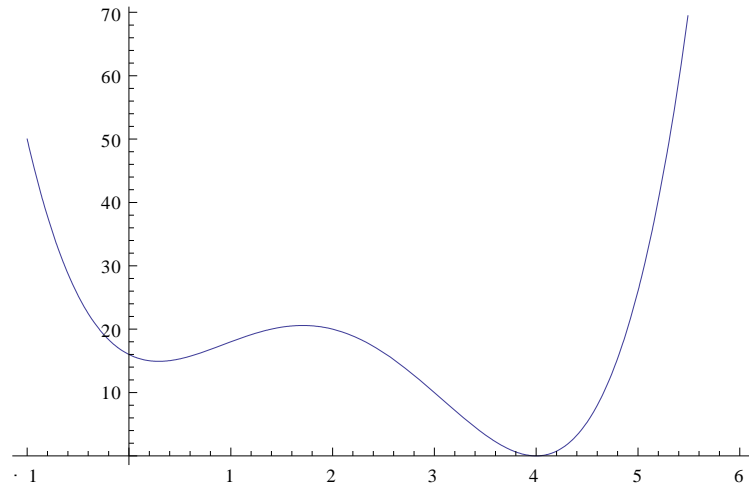


Name: _____

Date: 12-18-2009

Pre-Calculus Test on Polynomial and Rational Functions

- 1) Use the following information to determine the equation of the function:
(Hint: i is one of the solutions)



- 2) Completely factor the following function then find all the zeros of the function:
(Hint: (x^2+4) is one of the factors)

$$f(x) = x^4 - 3x^3 - x^2 - 12x - 20$$

- 3) For the following function determine the following items:
- The domain
 - All Vertical Asymptotes
 - All Horizontal Asymptotes
 - Any place the function is not continuous (aka holes)

$$f(x) = \frac{2x^2 - 8x}{x^3 - 9x^2 + 20x}$$

- 4) Using the following information determine the rational function
- Vertical Asymptotes at $x = -3, 0, 4$
 - Horizontal Asymptote at $y = -2/3$
 - The function is non-continuous at $x = -1$

