Precalculus: Homework
10/30-11/3

on: Tuesday: test

due: Wednesday: read pp. 92-96
pg. 102 / #25, 26, 42, 43

Thursday: read pp. 90-92

1. pg. 102 / #27, 28 – For these graphs, determine if the function is continuous or discontinuous. If it is discontinuous, for what value(s) of *x* is the discontinuity found?
2. Consider the function $f(x) = 3x - 12$. Verify that 5 is a number between $f(0)$ and $f(10)$. Determine a value of *c* so that $f(c) = 5$ and $0 < c < 10$.
3. Consider the function $f(x) = 2x^2 + 4x - 10$. Verify that 50 is a number between $f(0)$ and $f(10)$. Determine a value of *c* so that $f(c) = 50$ and $0 < c < 10$.

Friday: read pp. 203-204

1. Find the end behavior type of the functions:
   a. $f(x) = 2x^4 - x^3 + 3x^2 + 1$
   b. $f(x) = x^2 - x^3 + 4x + 1$
   c. $f(x) = 9 - x^9$
2. Find the end behavior model for the given functions:
   a. $f(x) = 3x^4 - 4x^2 + 2$
   b. $f(x) = 6x^2 + 4x^3 - 17$
   c. $f(x) = 8 - x^6$

Monday: read pp. 214-218

1. Determine the remainder when $x^6 + 2x^2 - 4x + 1$ is divided by $x + 1$.
2. If $x^3 - 3x^2 + 15x - 20$ is divided by $x - 3$, what is the remainder?
3. When $x^3 + kx^2 - 7$ is divided by $x - 2$, the remainder is -3, find *k*.
4. pg. 224 / #20, 23, 24
5. By synthetic division, find the quotient and the remainder:
   a. $(x^4 - 2x^3 + x^2 - x + 2) \div (x + 1)$
   b. $(2x^4 - 3x^2 + x + 5) \div (x + 3)$
   c. $(x^6 - 12) \div (x - 1)$