Precalculus: Homework
9/18 – 9/22

due: Tuesday: Find the domain and the range of each function:

1. $f(x) = \begin{cases} x^2, & x < 3 \\ x - 4, & x \geq 3 \end{cases}$
2. $g(x) = \begin{cases} -x, & 0 \leq x < 4 \\ \sqrt{x-3}, & x \geq 4 \end{cases}$
3. $h(x) = \begin{cases} x - 2, -4 \leq x \leq 0 \\ x^2, & 0 < x \leq 2 \end{cases}$

Wednesday: read pp. 117-118

1. Pp. 124-125 / #1, 3, 5, 48
2. Determine the domain and a rule for $(f+g)(x), (f-g)(x), (f \cdot g)(x),$ and $(f/g)(x)$ if $f(x) = \sqrt{x}$ and $g(x) = x - 2$.

Monday: read pp. 118-121

1. pp. 124-125 / #12; 13; 15 (also find $(f \circ f)(x)$ and $(g \circ g)(x)$; 16; 17; 49
2. If $f(x) = 4x - 7, g(x) = x^2 + 1, h(x) = \frac{x+1}{2}$, find:
   a. $(g \circ f \circ h)(7)$
   b. $(f \circ g \circ h)(1)$

on: Tuesday: test

due: Wednesday: read pp. 74-76

1. pg. 83 / #29, 31, 33, 35, 36
2. Find the zeros of each function:
   a. $f(x) = x^3 - 25x$ b. $f(x) = 5x^3 - 5x^2 - 10x$ c. $f(x) = \frac{x+1}{x^2-4}$