

Calculus:

Homework  
9/18 – 9/22

due: Tuesday: read pp. 39-40

1. pg. 42 / #75
2. Given:  $f(x) = 2x + 3$ ,  $g(x) = 5 - 7x$  Determine the domain and a rule for:  
a.  $(f \circ g)(x)$  b.  $(g \circ f)(x)$  c.  $(f \circ f)(x)$  d.  $(g \circ g)(x)$
3. If  $f(x) = 3x - 1$ ,  $g(x) = x^2$ , and  $h(x) = \frac{x}{2}$ , find:  
a.  $(f \circ g \circ h)(6)$  b.  $(g \circ h \circ f)(7)$  c.  $(f \circ h \circ f)(3)$

Wednesday: read pp. 72-76

1. pg. 81 / #33, 35, 42, 44
2. Calculate: a.  $(f \circ f^{-1})(9)$  b.  $h^{-1}(h(-2))$

on: Monday: test

Tuesday: read pp. 105-108

Determine the following limits:

1.  $\lim_{x \rightarrow 4} (3x + 5)$
2.  $\lim_{x \rightarrow 2} \frac{x-1}{3x}$
3.  $\lim_{x \rightarrow -3} (x^2 + 5x - 1)$
4.  $\lim_{x \rightarrow 0} \cos x$
5.  $\lim_{x \rightarrow -1} (3 - 5x)^2$
6.  $\lim_{x \rightarrow 0} \frac{x^3 - 5x}{x}$