## Lecture Handout \#06: Sep 15

## Composites of Functions

Given $f(x)=$ $\qquad$ and $g(x)=$ $\qquad$ ,
$(g \circ f)(x)=$ $\qquad$

$$
(f \circ g)(x)=
$$

$\qquad$
Are these functions the same?

## Decomposing Complicated Functions

Write $H(x)=$ $\qquad$ as $(g \circ f)(x)$, where

$$
g(x)=
$$

$\qquad$

$$
f(x)=
$$

$\qquad$

## Shifting, Scaling, and Reflecting Graphs

Below is the graph of a function $f(x)$. Sketch the graphs of the other related functions.


A $\quad y=2 f(-x)$


C $\quad y=f(2 x)-1$


D $y=-3 f(x+1)$
B $y=f(x-1)+1$



