

# Inverse and Piecewise Practice

I. Find the inverse for each function and verify using composition of functions:  $f(f^{-1}(x))$ .

(a)  $f(x) = 5x + 7$     (c)  $h(x) = -\frac{1}{4}x + \frac{9}{4}$

(b)  $g(x) = \frac{x+2}{3}$     (d)  $j(x) = \frac{4x+9}{10}$

II. Graph the piecewise functions and then evaluate the function for the given values.

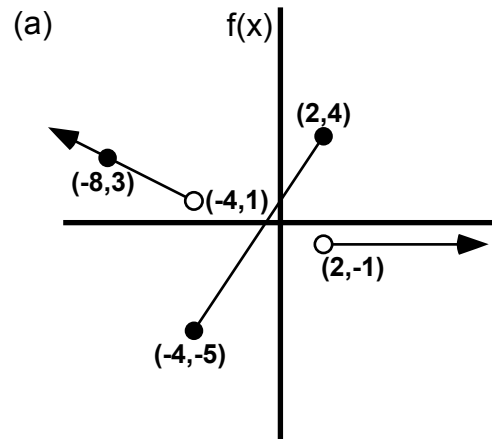
(a)  $f(x) = \begin{cases} x+2 & ; -3 \leq x < 1 \\ -x-4 & ; 1 \leq x < 5 \\ 2 & ; x = 6 \\ \frac{3}{4}x-11 & ; 8 < x \leq 12 \end{cases}$

$f(-5) =$   
 $f(1) =$   
 $f(10) =$

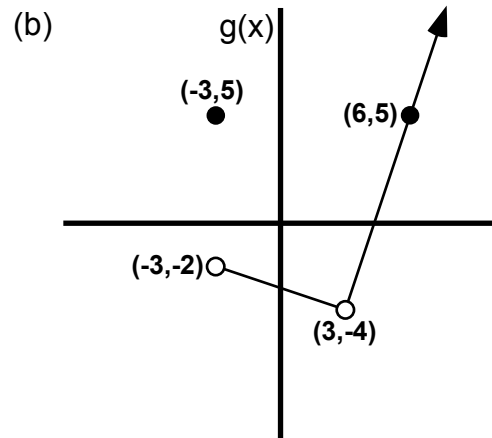
(b)  $g(x) = \begin{cases} \frac{1}{3}x-2 & ; -6 \leq x \leq 0 \\ -2x & ; 0 < x \leq 4 \\ 5 & ; 4 < x < 8 \\ -\frac{3}{2}x+14 & ; 8 < x < 12 \end{cases}$

$g(-4) =$   
 $g(4) =$   
 $g(10) =$

III. Find the piecewise function for the given graphs. Show all work and steps. Then evaluate the function for the given values.



$f(-12) =$   
 $f(2) =$   
 $f(9) =$



$g(-3) =$   
 $g(3) =$   
 $g(8) =$