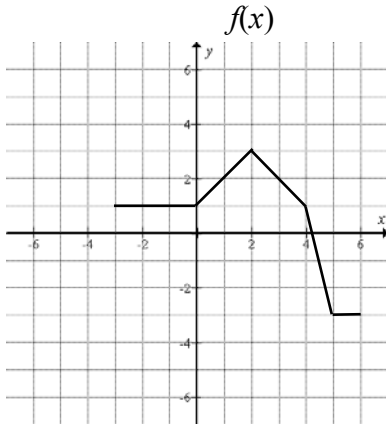
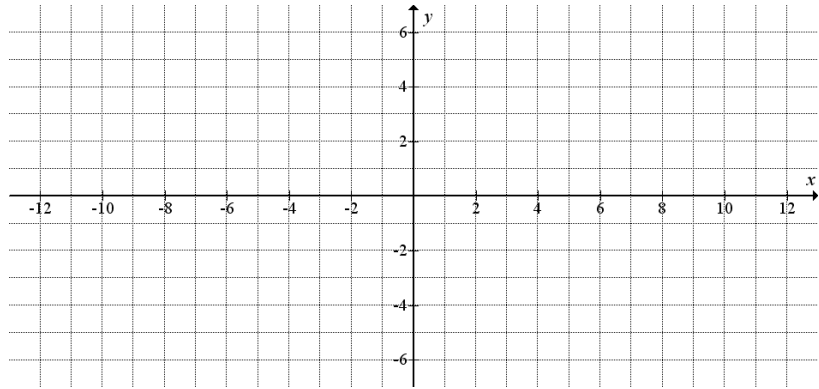


**Sheet #131: Transformations and Slopes** Name: \_\_\_\_\_ Period: \_\_\_\_

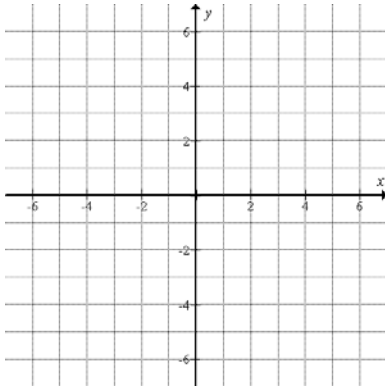
Given the graph of  $f(x)$ , composed of four line segments, sketch the following functions.



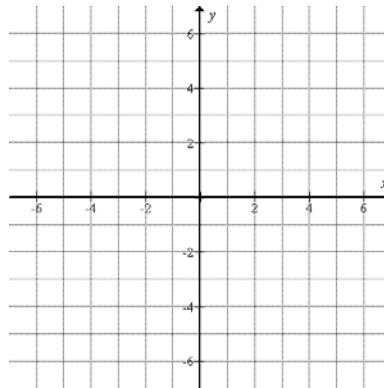
4.  $j(x) = f(x/2)$



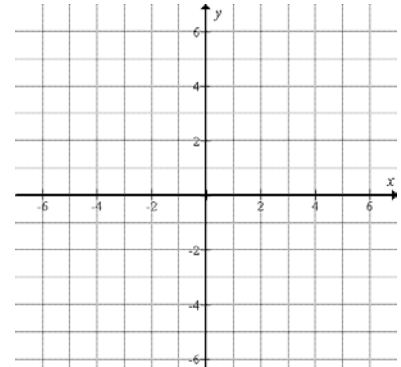
1.  $g(x) = f(x+2)$



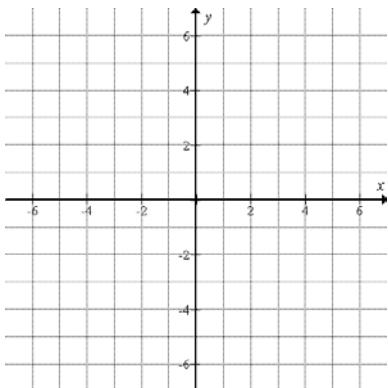
5.  $k(x) = f(2x)$



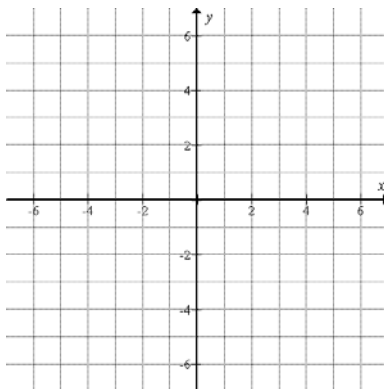
8. Define the invertible function  $n(x)$  to be  $f(x)$  restricted to the domain  $2 \leq x \leq 5$ . Sketch  $n^{-1}(x)$ , the inverse of  $n(x)$ .



2.  $h(x) = f(-x)$



6.  $l(x) = |f(x)|$



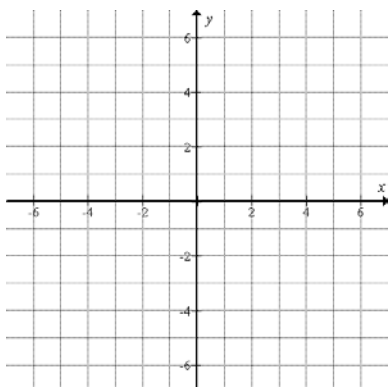
9. Find the values, if they exist.

- a)  $4f(3) - 5$
- b)  $f(g(3))$
- c)  $h(4)$
- d)  $k(g(f(1)))$
- e)  $n^{-1}(-1)$

10. Find the values of the slopes.

- a) Slope of  $f(x)$  at  $x = 3$ .
- b) Slope of  $f(2x)$  at  $x = 1.5$ .
- c) Slope of  $f(x/2)$  at  $x = 6$ .
- d) Slope of  $2f(x)$  at  $x = 3$ .
- e) Slope of  $0.5f(x)$  at  $x = 3$ .
- f) Slope of  $f(100x)$  at  $x = 0.03$ .
- g) Slope of  $n(x) = f(x)$  at  $x = 4.5$ .
- h) Slope of  $n^{-1}(x)$  at  $x = -1$ .

3.  $i(x) = 2f(x)$



7.  $m(x)$  = the value of the slope of  $f(x)$  at each  $x$

