

## Chapter 2B Review

1. Given  $f(x) = 3x + 2$        $g(x) = 2x^2 - 4x + 1$        $h(x) = \sqrt{x+3}$        $k(x) = \frac{x-2}{3}$
- a.  $(f+g)(4)$       b.  $(fh)(6)$       c.  $g(f(x))$       d.  $g(x) - f(x)$       e.  $\left(\frac{g}{f}\right)(x)$

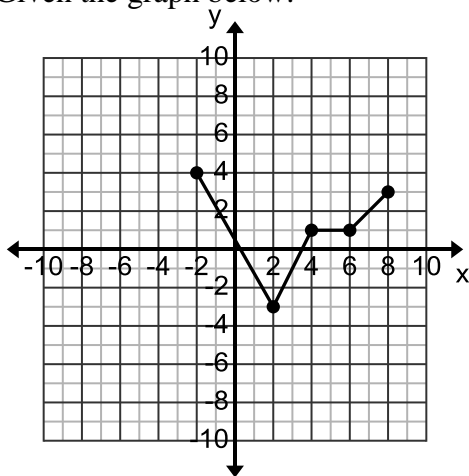
2. What would be the domain for  $1e$ ?

2. Find the inverse of

a.  $f(x) = \sqrt{3x+4}$       b.  $f(x) = \frac{3}{2x} + 1$

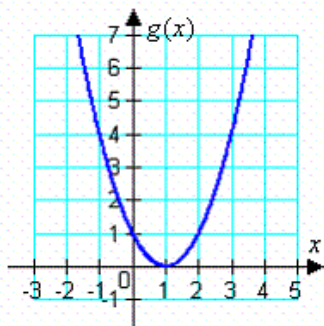
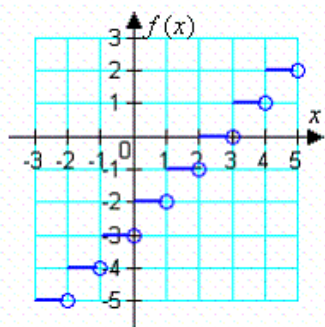
3. Algebraically verify that  $f(x) = 2x - 8$  and  $g(x) = \frac{x+8}{2}$  are inverses by finding  $f(g(x))$  and  $g(f(x))$ .

4. Given the graph below.



- a. Does this graph represent a function?  
 b. Is this graph one-to-one?  
 c. Graph the inverse.

5. Use the graphs of  $f$  and  $g$  to evaluate the following.



- a.  $f(g(1))$   
 b.  $f(g(2))$   
 c.  $g(f(0))$   
 d.  $g(3) - 2f(-3)$   
 e.  $f(4) + 2g(-1)$

6. Given  $f(x) = 2x - 5$  and  $g(x) = 3x^2 + 7$  find  $\left(\frac{g}{f}\right)(x)$ . Also include the domain of  $\left(\frac{g}{f}\right)(x)$

7. Given  $f(x) = x^2 + 5$  and  $g(x) = 2x + 7$  find

- a.  $f(g(x))$       b.  $g(f(-2))$       c.  $f(g(2))$