

\*AAT

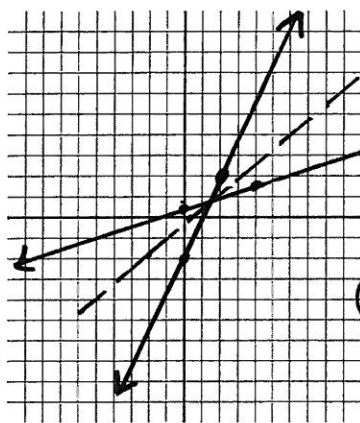
Chapter 3: Functions & Inverse Functions (IC/HW)

Name: Keyz  
Date: \_\_\_\_\_ Period: \_\_\_\_\_

For each function:

- (a) Find the inverse
- (b) Graph the function and its inverse

1.  $f(x) = 4x - 2$



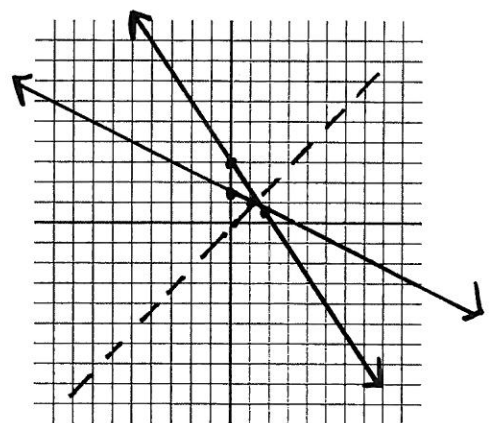
$$y = 4x - 2$$

$$x = 4y - 2$$

$$\frac{x+2}{4} = \frac{4y}{4}$$

$$f^{-1}(x) = \frac{1}{4}x + \frac{1}{2}$$

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



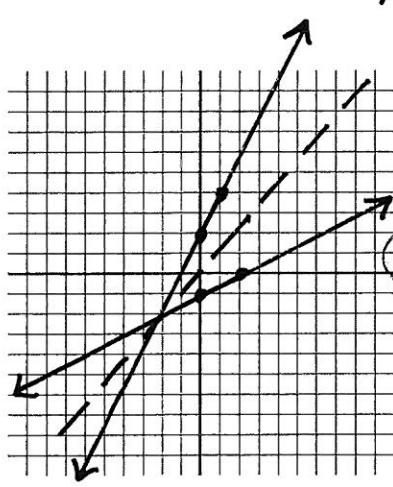
$$y = 3 - 2x$$

$$x = 3 - 2y$$

$$\frac{x-3}{-2} = y$$

$$f^{-1}(x) = -\frac{1}{2}x + \frac{3}{2}$$

3.  $f(x) = \frac{x-2}{2}$



$$y = \frac{x-2}{2}$$

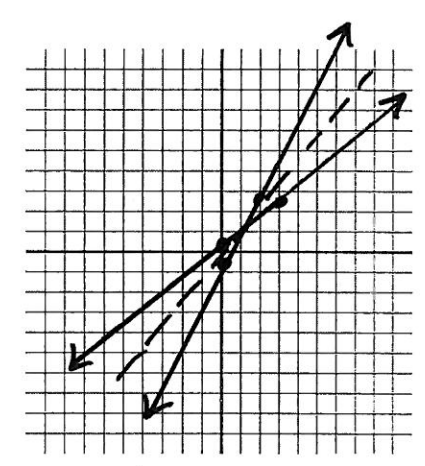
$$x = \frac{y-2}{2}$$

$$2x = y - 2$$

$$2x + 2 = y$$

$$f^{-1}(x) = 2x + 2$$

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



$$y = \frac{2}{3}x + \frac{1}{2}$$

$$x = \frac{2}{3}y + \frac{1}{2}$$

$$\frac{3}{2} \left( x - \frac{1}{2} \right) = \left( \frac{2}{3} \right) y - \frac{3}{2}$$

$$\frac{3}{2} \left( x - \frac{1}{2} \right) = y$$

$$f^{-1}(x) = \frac{3}{2}x - \frac{3}{4}$$