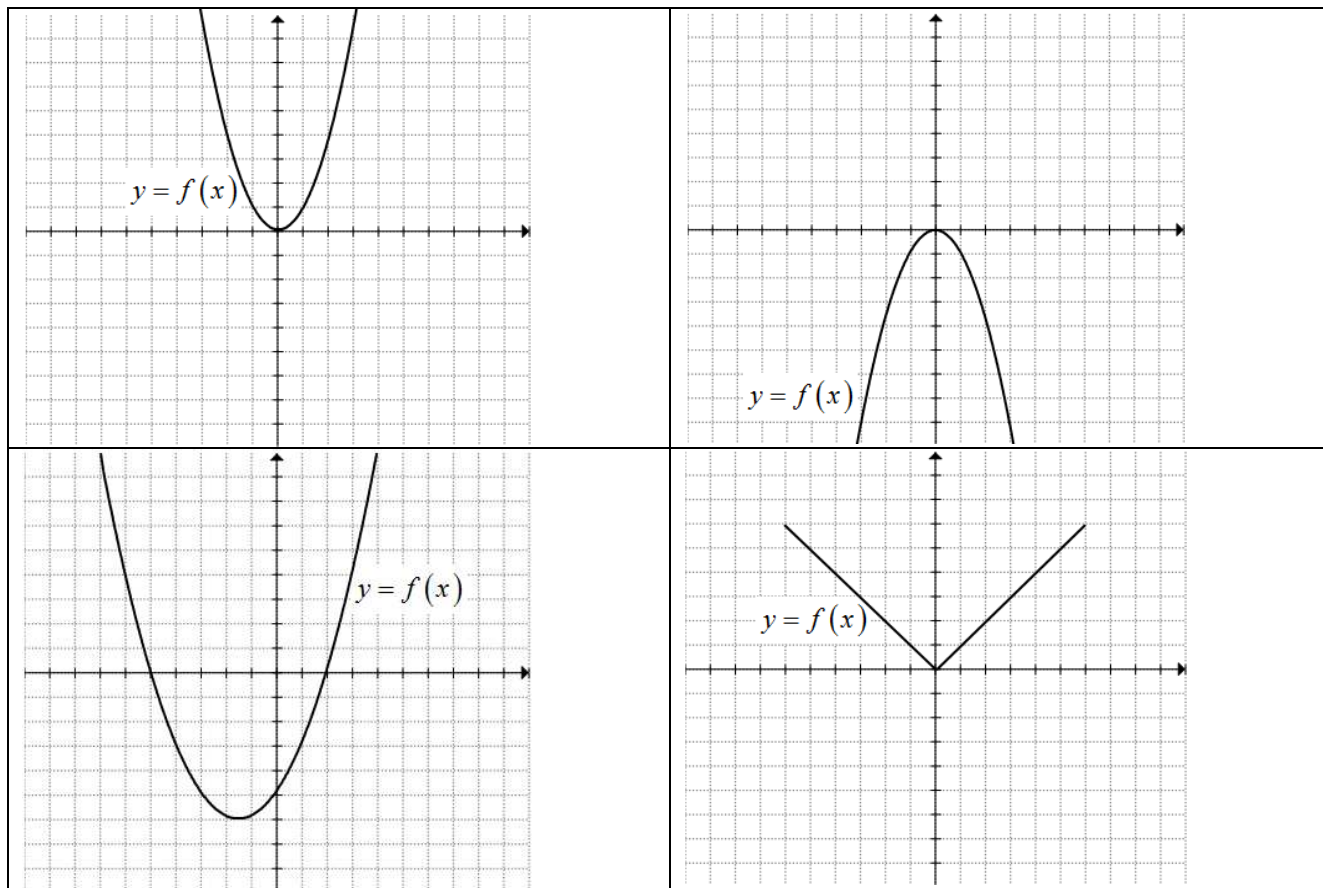


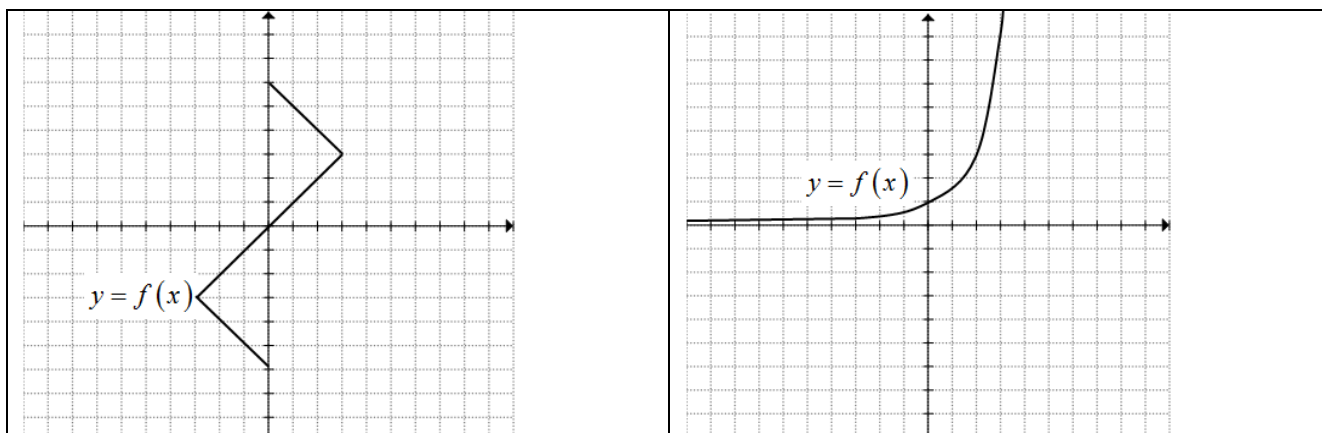
Name: _____

Date: _____

HW Pre Calculus 12 Section 1.6 Inverse Reflections and Inverse Functions:

1. Suppose the coordinate (a, b) is on the function $y = f(x)$, what will this coordinate be after an inverse reflection?
2. Given that all of these points are on the function $y = f(x)$, what will these points become after an inverse reflection over the line $y = x$
i) $(5, 6)$ ii) $(-2, 4)$ iii) $(17, 10342)$ iv) $(-10, -10)$
3. Where on a graph will a function and its inverse intersect each other? Explain?
4. When do we need to restrict the domain of a function so that its inverse is a function? Explain:
5. Given each image, draw the inverse reflection over the line $y = x$. :





6. Indicate the transformations in order for each of the following: Then indicate how the coordinates (a,b) will change after each transformation:

a) $x = -f(y)$	b) $-x = -f(y)$
c) $-x + 1 = f(2 - y)$	d) $4 - x = f(3 - y)$
e) $11 + x = f(-y + 1) + 2$	f) $y = \frac{1}{2} f^{-1}(3x) + 1$

$$\text{g) } 9 + 3x = f(-2y + 3)$$

$$\text{h) } y = \frac{1}{3} f^{-1}(2(x-3)) + 18$$

$$\text{i) } y = \frac{1}{3} f^{-1}(2x-4) - 20$$

$$\text{j) } \frac{2}{3}(y-12) = f^{-1}\left(\frac{2}{5}x-14\right)$$

7. Given each equation for $y = f(x)$, find the inverse function $y = f^{-1}(x)$. Make sure to restrict the domains if necessary.

$$y = 3x - 4$$

$$y = \frac{-8x+11}{2}$$

$$y = \frac{2-3x}{4+7x}$$

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

$$y = -2x^2; x \geq 0$$

$$y = 3(x-5)^2; x \geq 5$$

$$y = \sqrt{3x-4} + 2$$

$$y = -2\sqrt{4x+2} - 12$$