Finding an Inverse Name: _____A#____

Examples: As a class we are going to find the inverse to each of the following functions algebraically. These are the same functions we graphed on our Building Inverses sheet. Make sure to pay attention to the domain of the functions.

a) $f(x) = 6 + 3x$

b) $g(x) = (x-2)^2 - 5$

c) $p(x) = \sqrt{x+4} - 3$

d) $q(x) = \frac{1}{2}x^3$

1. A function f(x) contains the points (-2, -3), (0,-1), (2, 2), and (4, 6). Give the points known to be in the inverse of f(x).

2. Given g(t) = 5 + 2t, first find $g^{-1}(t)$ then find each value.

a) $g^{-1}(t)$ b) g(2) c) $g^{-1}(9)$

3. Find each inverse (a-d) and then match with its inverse (e-h).

a) $y = 6 - 2x$ b) $y = \frac{-6}{x-2}$ c) $y = 2 - \frac{1}{6}x$ d) $y = 6 + \frac{2}{x}$

e) $y = 2 - \frac{6}{x}$ f) $y = -6(x - 2)$ g) $y = \frac{2}{x-6}$ h) $y = -\frac{1}{2}(x - 6)$

4. Write each function using f(x) notation, then find its inverse. If the inverse is a function, write it using $f^{-1}(x)$ notation.

CP & HN: a) y = 2x – 3 CP only: b) 3x + 2y = 4 HN only: c) $x^2 + 2y = 3$