**Practice #3- Transformations** Name:

(careful! I renamed the functions!)

1. For each of the following equations:
   1. State the name of parent equation.
   2. **Sketch each equation** (Two per Grid, label them).
   3. **State its domain and range**

a) $a(x) = -2(x+4)^3 - 1$ cubic (∞,∞) (∞,∞)

b) $y = -\frac{1}{x}$ recip. (∞,∞) $x \neq 0$ $y \neq 0$

c) $x = 2(y-1)^2 - 3$ [-3,∞) [1,∞)

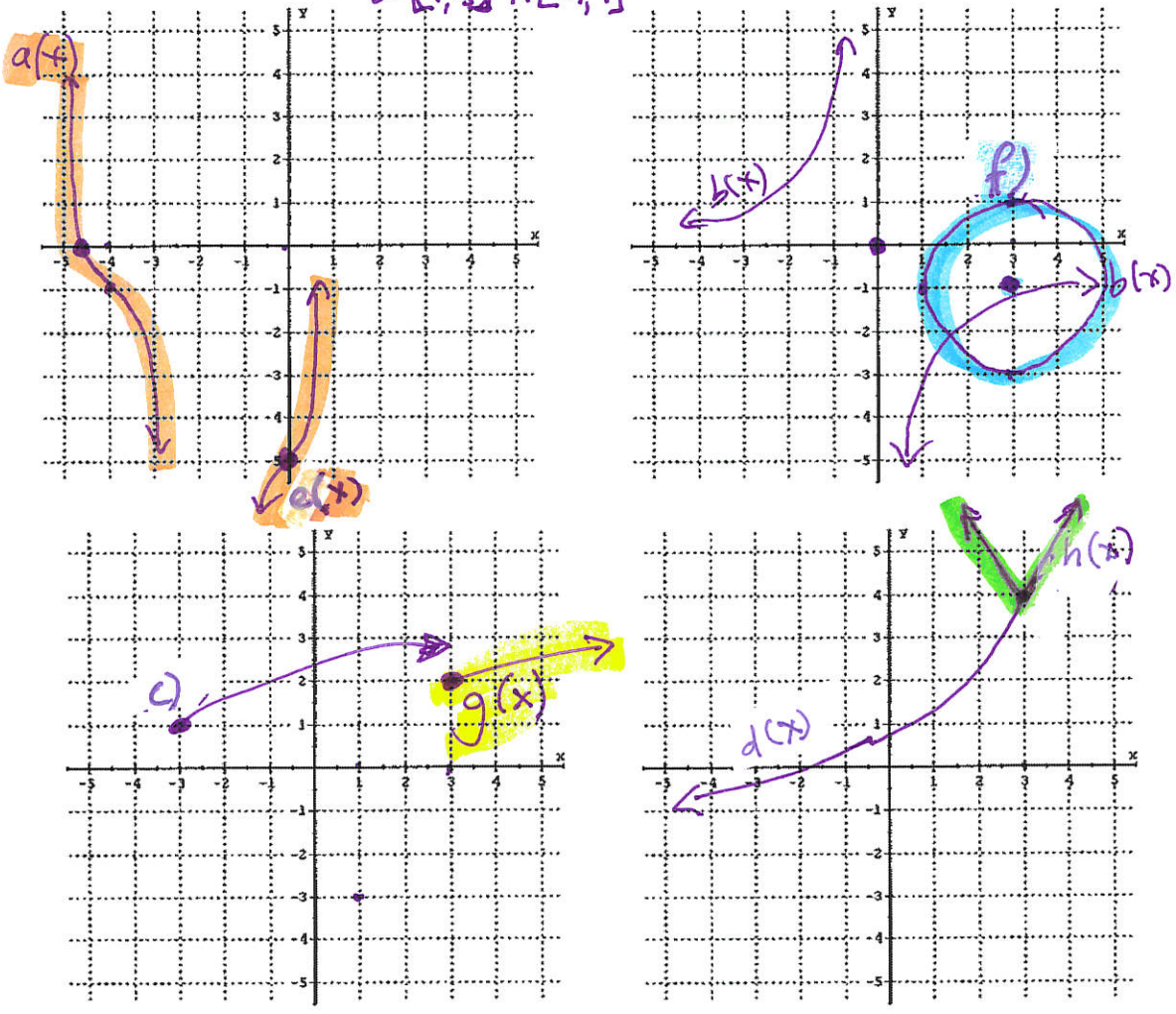
d) $d(x) = -2\sqrt{3-x} + 4$ sqr root (-∞, 3]

e) $e(x) = 3x^3 - 5$ cubic (-∞,∞) (-∞,∞)

f) $(x-3)^2 + (y+1)^2 = 4$ circle D: [1,5] R [-3,1]

g) $g(x) = \frac{1}{3}\sqrt{x-3} + 2$ [3,∞) sqr. root [2,∞)

h) $h(x) = 2|x-3| + 4$ abs. value (-∞,∞)




2.

The graph shows the function $f(x)$, for $-2 \leq x \leq 4$.

**a** Let $h(x) = f(-x)$. Sketch the graph of $h(x)$.

**b** Let $g(x) = \frac{1}{2} f(x-1)$. The point $A(3, 2)$ on the graph of $f$ is transformed to the point $P$ on the graph of $g$. Find the coordinates of $P$. (3, 0)