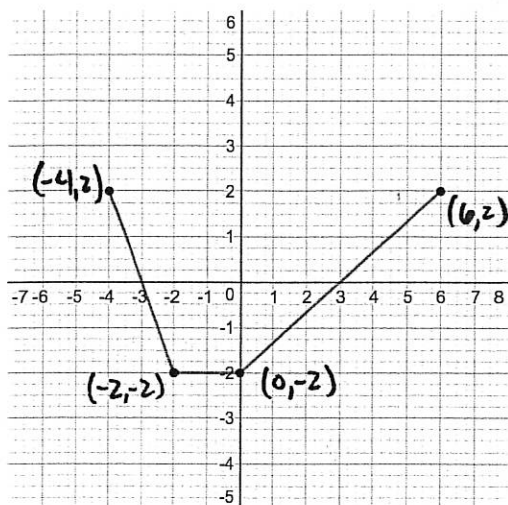


§P.7 & P.8: Transformations of Functions

1.] Suppose we have a piecewise linear function $f(x)$ defined by the graph below:



On the pieces of graph paper provided below, sketch the transformed functions:

a.) $y = f(-x)$

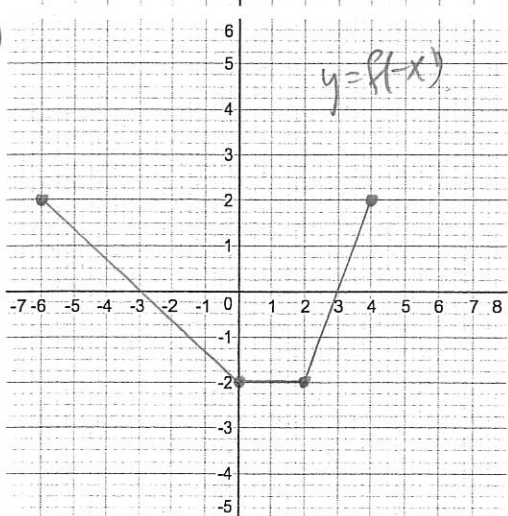
b.) $y = f(x) + 3$

c.) $y = -f(x + 2)$

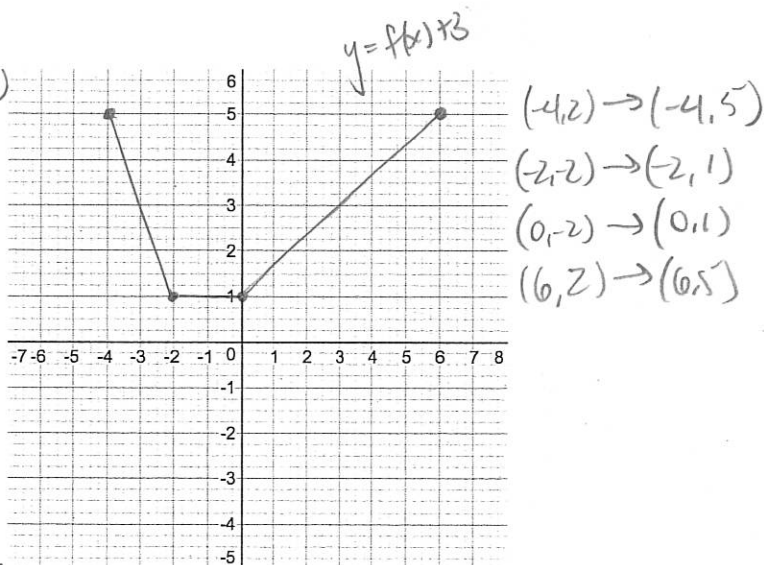
d.) $y = f(2x) - 1$

a.)

$$\begin{aligned} (-4, 2) &\rightarrow (4, 2) \\ (-2, -2) &\rightarrow (2, -2) \\ (0, -2) &\rightarrow (0, -2) \\ (6, 2) &\rightarrow (-6, 2) \end{aligned}$$

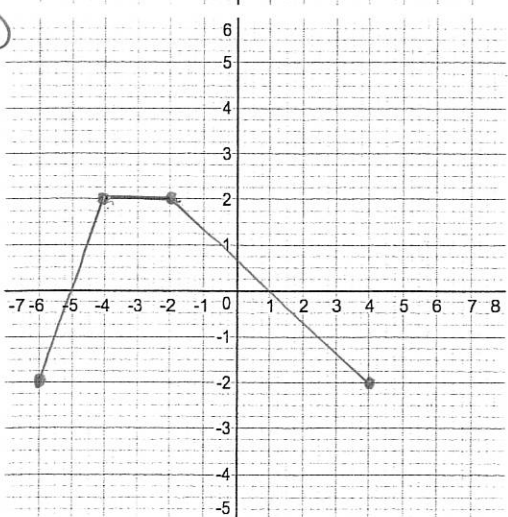


b.)

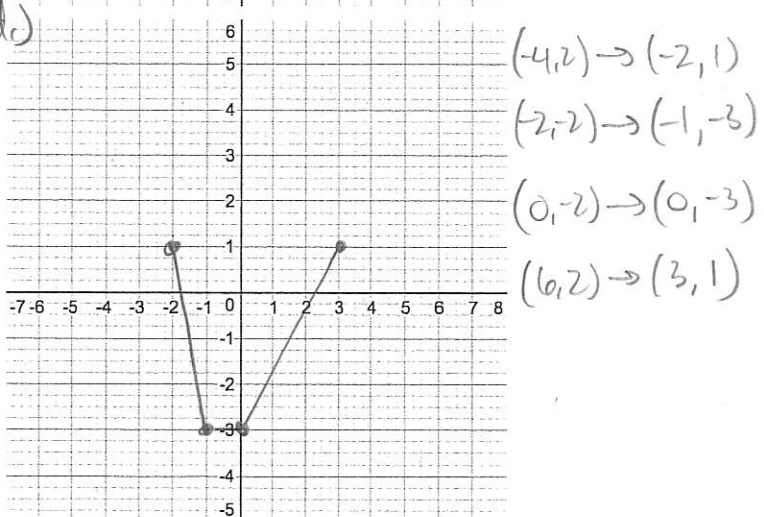


c.)

$$\begin{aligned} (-4, 2) &\rightarrow (-6, -2) \\ (-2, -2) &\rightarrow (-4, -2) \\ (0, -2) &\rightarrow (-2, 2) \\ (6, 2) &\rightarrow (4, -2) \end{aligned}$$



d.)



2.] Consider the list of functions below. Match each function to its graph.

(A) $f(x) = -(x - 2)^3$

(B) $f(x) = -3 - (x + 1)^2$

(C) $f(x) = 4 - (x - 2)^2$

(D) $f(x) = -|x + 3| - 2$

(E) $f(x) = -(x + 1)^3$

(F) $f(x) = \frac{1}{2}\sqrt{x}$

(G) $f(x) = 2\sqrt{x}$

(H) $f(x) = |x + 3| - 2$

