Transformations Practice $y = f(x)$ vs. $y = \pm af(\pm b(x \pm h)) \pm k$ Name

Describe the effect of a, b, h & k.

a: _____

b: _____

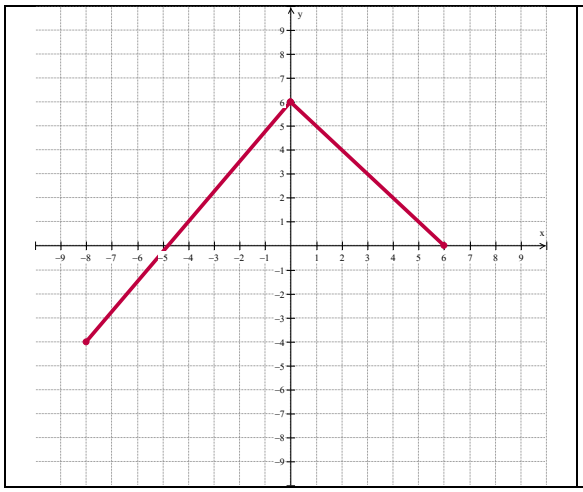
h: _____ k: _____

1) Let $f(x) = x^2$. Shift the vertex to (5, -2). (a) Write the f(x) form of the new equation. (b) Write the actual new equation. (c) Graph to check your answer.

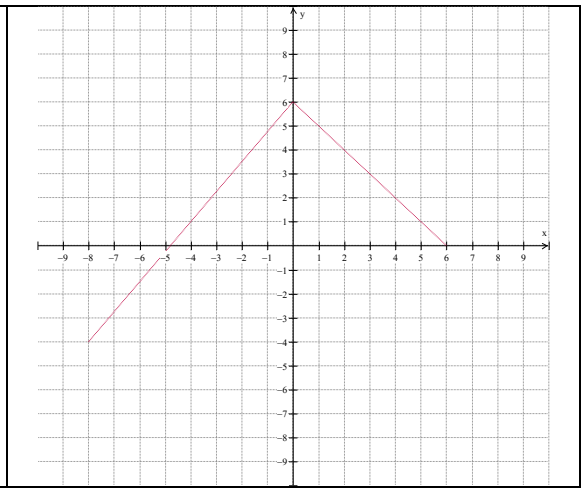
2) Let $f(x) = x^2$. Turn it concave down then shift the vertex to (-3, 7). (a) Write the f(x) form of the new equation. (b) Write the actual new equation. (c) Graph to check your answer.

3) Consider f(x) shown below. Describe the transformation(s) and graph each new equation.

(a)

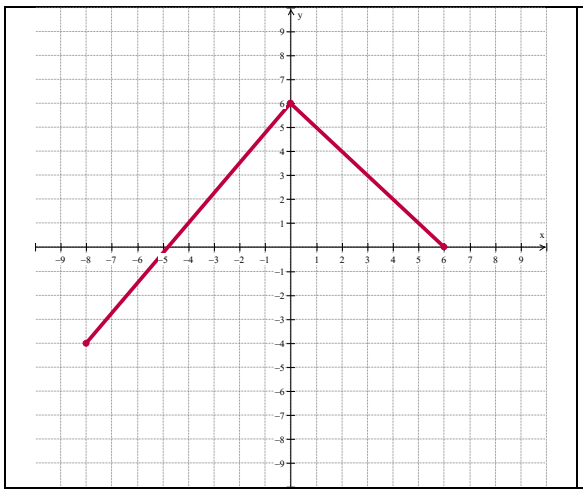


f(x)

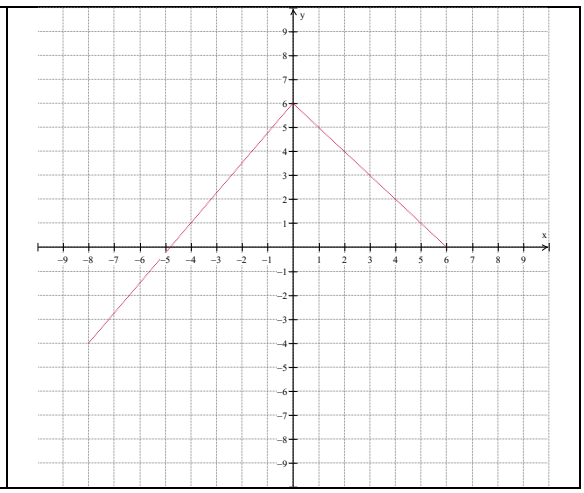


f(x-5) + 4

(b)

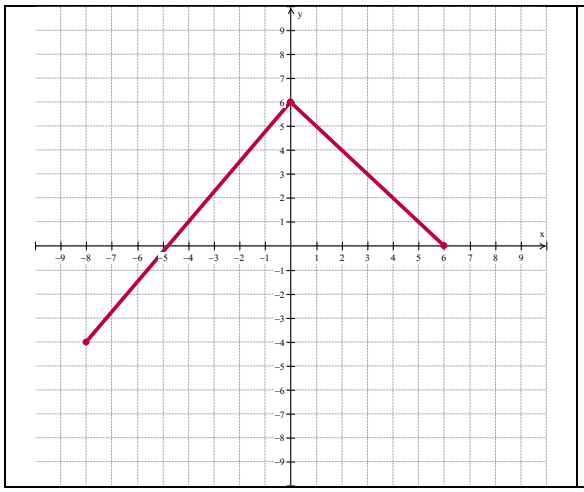


f(x)

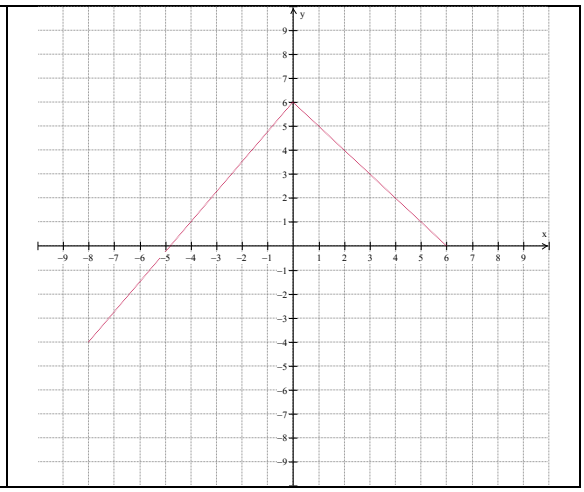


f(2x)

(c)

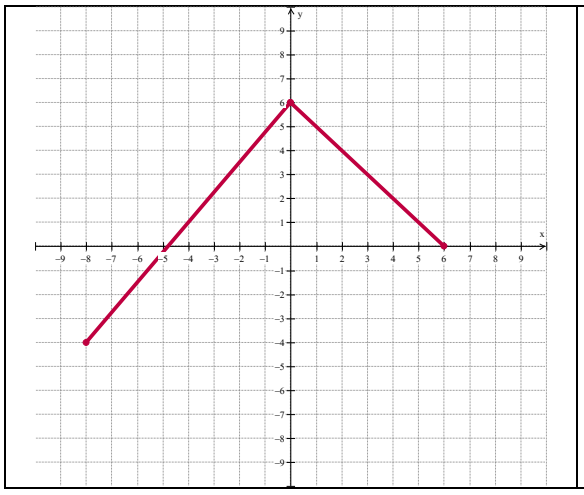


f(x)

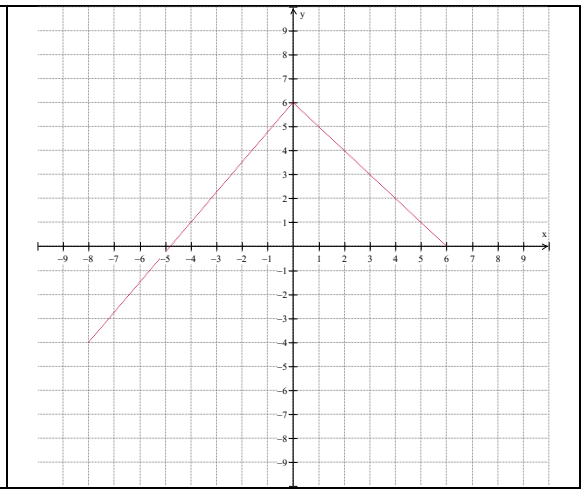


2f(x)

(d)

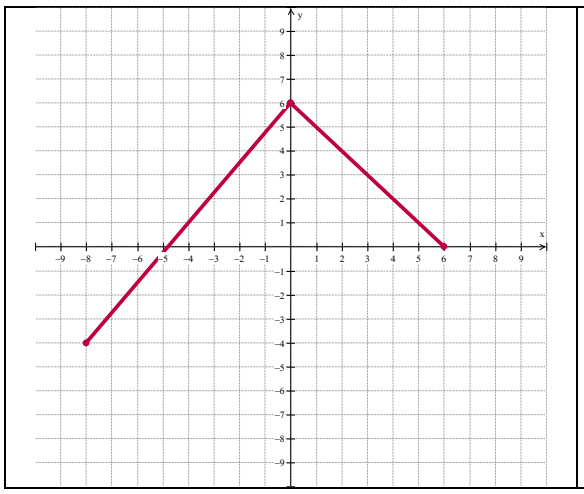


f(x)

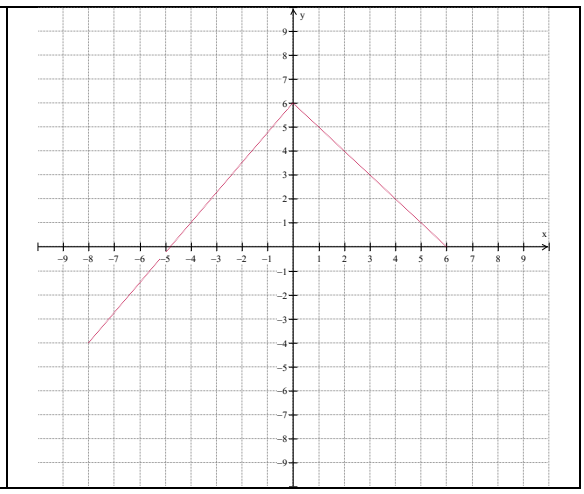


f(-2(x-4))

(e)



f(x)



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