

## Offline HW 2

This is the second offline assignment. It is **due on Friday, September 1**. No extensions will be given. You may submit it early, but late work will not be accepted. **The overall look of your paper will count toward your grade.** Please graph the function on the grid provided below. **Submissions on other paper will not be graded.**

**You must graph the functions neatly and accurately BY HAND!**

This must be **YOUR work**; you are not allowed to ask tutors, LA, friends or family members for help. You CAN however consult with your classmates. If you choose to do so, each of you must submit a separate paper and the name of the person(s) with whom you collaborated must be written on this paper. The papers that are **suspiciously identical will receive 0 credit.**

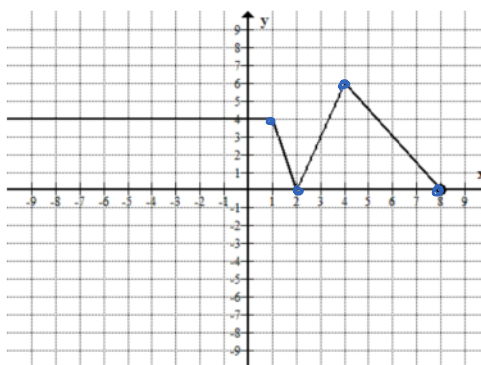
1. A point  $(1,3)$  is on the graph of a function  $y = f(x)$ . What point will be on the graph of  $y = f(-x - 5) + 8$ ?

$$f(x) \rightarrow f(x-5) \rightarrow f(-x-5) \rightarrow f(-x-5) + 8$$

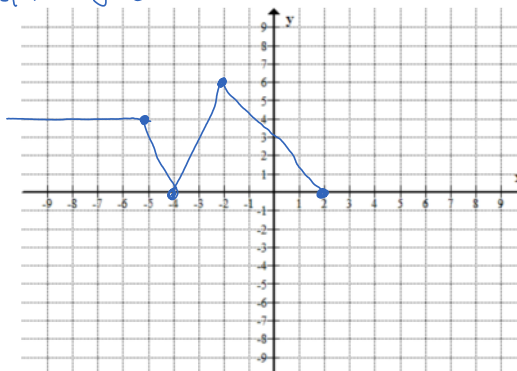
$$(1,3) \rightarrow (6,3) \rightarrow (-6,3) \rightarrow \boxed{(-6,11)}$$

2. The graph of a function  $f(x)$  is given below. Use transformations to graph  $y = -f(2x+6) + 3$ . List the transformations needed (use proper names!) and graph each intermediate graph on the grid provided. Be accurate!

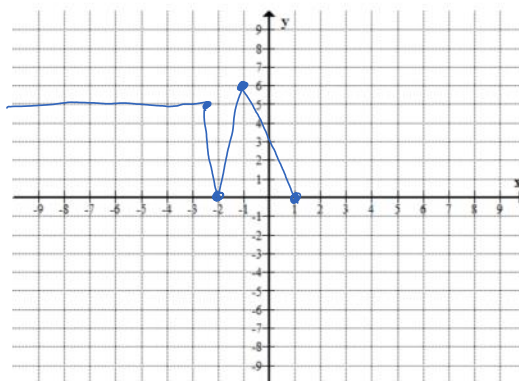
- a. Original function  $y = f(x)$



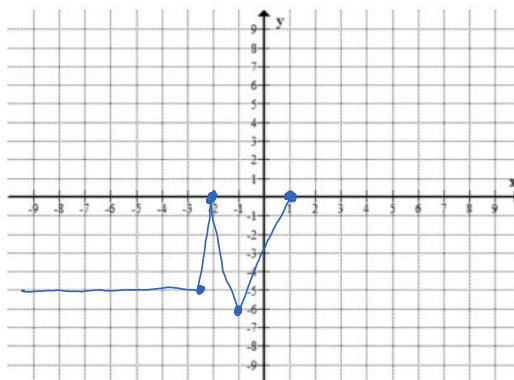
- b. Transformation: horizontal shift to left by 6 ; equation:  $f(x+6)$



c. Transformation: hor. shrink by factor of 2; equation:  $f(2x+6)$



d. Transformation: reflection about the x-axis; equation:  $-f(2x+6)$



e. Transformation: vertical shift up by 3; equation:  $-f(2x+6)+3$

