

### Parameter Changes - Practice #4

Use the graphs given to answer the questions. To make it easier, label the ordered pairs of the points marked with black dots.

**Hint #1:** Every  $(x, y)$  in  $f(x)$  becomes  $(x, -y)$  in  $-f(x)$ .

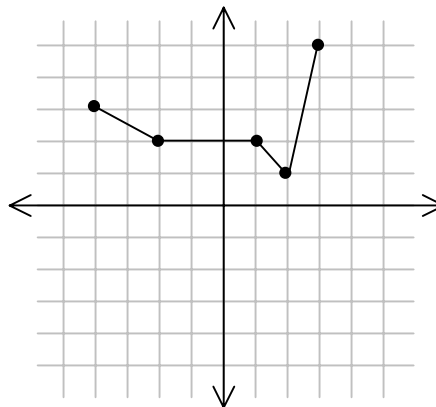
1. What is the domain of  $y = f(x)$ ?

2. What is the Range of  $y = f(x)$ ?

3. Graph  $y = -f(x)$ .

4. What is the domain of  $y = -f(x)$ ?

5. What is the range of  $y = -f(x)$ ?



6. Describe in your own words the relationship between the graph of  $y = f(x)$  and the graph of  $y = -f(x)$ .

**Hint #2:** Every  $(x, y)$  in  $f(x)$  becomes  $(-x, y)$  in  $f(-x)$ .

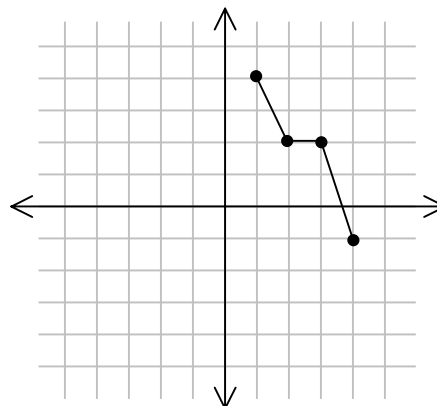
7. What is the domain of  $y = g(x)$ ?

8. What is the range of  $y = g(x)$ ?

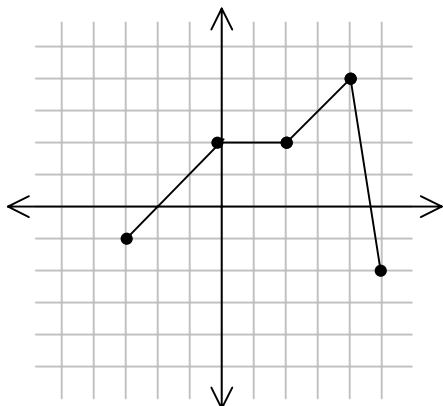
9. Graph  $y = g(-x)$ .

10. What is the domain of  $y = g(-x)$ ?

11. What is the range of  $y = g(-x)$ ?



12. Describe in your own words the relationship between the graph of  $y = g(x)$  and the graph of  $y = g(-x)$ .



13. What is the domain of  $y = h(x)$ ?

14. What is the range of  $y = h(x)$ ?

15. Graph  $y = -h(x)$ . In a different color, graph  $y = h(-x)$ .

16. What is the domain of  $y = -h(x)$ ?

17. What is the range of  $y = -h(x)$ ?

18. What is the domain of  $y = h(-x)$ ?

19. What is the range of  $y = h(-x)$ ?

20. Using transformation terms (*translation, reflection, rotation, dilation*), describe the relationship between the graph of  $y = h(x)$  and the graph of  $y = -h(x)$ .

21. Using transformation terms (*translation, reflection, rotation, dilation*), describe the relationship between the graph of  $y = h(x)$  and the graph of  $y = h(-x)$ .