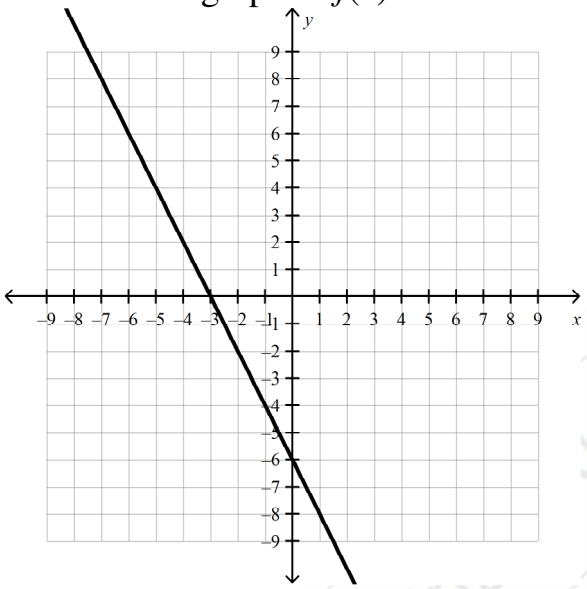
Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Function Reflections

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Below is the graph of $f(x)$:



What is the correct equation for the transformation of a reflection over the y-axis?

a. $g(x) = 2x - 6$
b. $g(x) = 2x + 6$
c. $g(x) = -2x + 6$
d. $g(x) = -2x - 6$

____ 2. What is the correct equation for the transformation of a reflection over the y-axis for the function $f(x) = -3x + 3$?

a. $g(x) = -3x + 3$
b. $g(x) = -3x - 3$
c. $g(x) = 3x + 3$
d. $g(x) = 3x - 3$

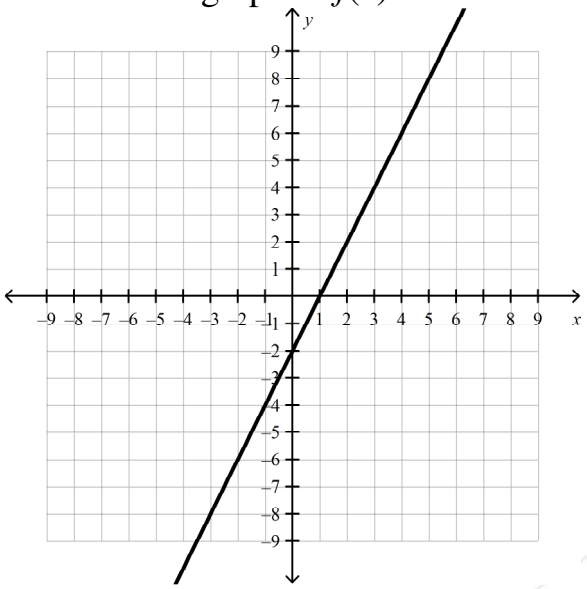
____ 3. What is the correct equation for the transformation of a reflection over the y-axis for the function $f(x) = 2x + 1$?

a. $g(x) = -2x - 1$
b. $g(x) = 2x + 1$
c. $g(x) = -2x + 1$
d. $g(x) = 2x - 1$

____ 4. What is the correct equation for the transformation of a reflection over the y-axis for the function $f(x) = -3x + 4$?

a. $g(x) = -3x - 4$
b. $g(x) = -3x + 4$
c. $g(x) = 3x + 4$
d. $g(x) = 3x - 4$

____ 5. Below is the graph of $f(x)$:



What is the correct equation for the transformation of a reflection over the y-axis?

a. $g(x) = 2x + 2$
b. $g(x) = 2x - 2$
c. $g(x) = -2x + 2$
d. $g(x) = -2x - 2$

____ 6. What is the correct equation for the transformation of a reflection over the y-axis for the function with locations at (6, 18) and (8, 22) on a graph?

a. $f(x) = 2x - 6$
b. $f(x) = -2x - 6$
c. $f(x) = -2x + 6$
d. $f(x) = 2x + 6$

____ 7. What is the correct equation for the transformation of a reflection over the x-axis for the function with locations at (3, –1) and (1, 3) on a graph?

a. $f(x) = 2x + 5$
b. $f(x) = 2x - 5$
c. $f(x) = -2x + 5$
d. $f(x) = -2x - 5$

____ 8. What is the correct equation for the transformation of a reflection over the y-axis for the function with locations at (–4, 18) and (–2, 10) on a graph?

a. $f(x) = -4x - 2$
b. $f(x) = 4x + 2$
c. $f(x) = 4x - 2$
d. $f(x) = -4x + 2$

Multiple Response
Identify one or more choices that best complete the statement or answer the question.

____ 9. Which three of the following show $g(x)$ as a reflection of $f(x)$ over the x-axis?
a. $f(x) = -(x+9)^2 - 8$ and $g(x) = -(-x+9)^2 - 8$
b. $f(x) = -5x^2 - 7x + 5$ and $g(x) = -5x^2 + 7x + 5$
c. $f(x) = -(x+9)^2 - 8$ and $g(x) = (x+9)^2 + 8$
d. $f(x) = -5x^2 - 7x + 5$ and $g(x) = 5x^2 + 7x - 5$
e. $f(x) = (-x+6)(x+6)$ and $g(x) = (x+6)(-x+6)$
f. $f(x) = (-x+6)(x+6)$ and $g(x) = (x-6)(x+6)$

____ 10. Which three of the following show $g(x)$ as a reflection of $f(x)$ over the y-axis?
a. $f(x) = (-x-3)(x-7)$ and $g(x) = (x+3)(x-7)$
b. $f(x) = 5x^2 + 2x + 1$ and $g(x) = 5x^2 - 2x + 1$
c. $f(x) = -(x-2)^2 - 3$ and $g(x) = -(-x-2)^2 - 3$
d. $f(x) = -(x-2)^2 - 3$ and $g(x) = (x-2)^2 + 3$
e. $f(x) = 5x^2 + 2x + 1$ and $g(x) = -5x^2 - 2x - 1$
f. $f(x) = (-x-3)(x-7)$ and $g(x) = (x-3)(-x-7)$

____ 11. Which three of the following show $g(x)$ as a reflection of $f(x)$ over the x-axis?
a. $f(x) = -3x^2 - 8x + 2$ and $g(x) = 3x^2 + 8x - 2$
b. $f(x) = (-x-8)(x-4)$ and $g(x) = (x+8)(x-4)$
c. $f(x) = -(x-5)^2 - 2$ and $g(x) = -(-x-5)^2 - 2$
d. $f(x) = (-x-8)(x-4)$ and $g(x) = (x-8)(-x-4)$
e. $f(x) = -3x^2 - 8x + 2$ and $g(x) = -3x^2 + 8x + 2$
f. $f(x) = -(x-5)^2 - 2$ and $g(x) = (x-5)^2 + 2$

____ 12. Which three of the following show $g(x)$ as a reflection of $f(x)$ over the y-axis?
a. $f(x) = 9x^2 + 8x + 4$ and $g(x) = 9x^2 - 8x + 4$
b. $f(x) = -(x-4)^2 + 5$ and $g(x) = -(-x-4)^2 + 5$
c. $f(x) = 9x^2 + 8x + 4$ and $g(x) = -9x^2 - 8x - 4$
d. $f(x) = (-x-4)(x+3)$ and $g(x) = (x+4)(x+3)$
e. $f(x) = (-x-4)(x+3)$ and $g(x) = (x-4)(-x+3)$
f. $f(x) = -(x-4)^2 + 5$ and $g(x) = (x-4)^2 - 5$

Function Reflections
Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1
2. ANS: C PTS: 1
3. ANS: C PTS: 1
4. ANS: C PTS: 1
5. ANS: D PTS: 1
6. ANS: C PTS: 1
7. ANS: B PTS: 1
8. ANS: B PTS: 1

MULTIPLE RESPONSE

9. ANS: C, D, F PTS: 1
10. ANS: B, C, F PTS: 1
11. ANS: A, B, F PTS: 1
12. ANS: A, B, E PTS: 1