Transformations of Functions · 1

The graph of $y = x^3$ is reflected across the x-axis, stretched vertically by a factor of 3, shifted 2 units left, then shifted 2 units down. Write the equation of the new graph.

Transformations of Functions · 2

The point (-4, 5) is on the graph of y = f(x). Which point must be on the graph of g(x) = -f(x + 5) + 3?

Transformations of Functions · 3

The point (-3, 3) is on the graph of y = f(x). Which point must be on the graph of g(x) = -2f(x + 3) + 1?

Transformations of Functions · 4

The graph of y = |x| is shifted 4 units left, then shifted 4 units down. Write the equation of the new graph.

Transformations of Functions · 5

The point (-4, -5) is on the graph of y = f(x). Which point must be on the graph of g(x) = 2f(x - 1) + 3?

Transformations of Functions · 6

The graph of $y = x^2$ is stretched vertically by a factor of 3, shifted 3 units right, then shifted 2 units down. Write the equation of the new graph.

Transformations of Functions · 7

The graph of $y = x^3$ is reflected across the x-axis, shifted 2 units left, then shifted 3 units up. Write the equation of the new graph.

Transformations of Functions · 8

The point (4, 1) is on the graph of y = f(x). Which point must be on the graph of g(x) = 3f(x - 1) - 3?

Transformations of Functions · 2

ANSWER

$(-9, -2)$

Transformations of Functions · 1

ANSWER

$y = -3(x + 2)^3 - 2$

Transformations of Functions · 4

ANSWER

$y = |x + 4| - 4$

Transformations of Functions · 3

ANSWER

$(-6, -5)$

Transformations of Functions · 6

ANSWER

$y = 3(x - 3)^2 - 2$

Transformations of Functions · 5

ANSWER

$(-3, -7)$

Transformations of Functions · 8

ANSWER

$(5, 0)$

Transformations of Functions · 7

ANSWER

$y = -(x + 2)^3 + 3$

Transformations of Functions · 9

The point (-5, -4) is on the graph of y = f(x). Which point must be on the graph of g(x) = -2f(x + 3) + 4?

Transformations of Functions · 10

The graph of $y = x^2$ is reflected across the x-axis, shifted 6 units right, then shifted 4 units up. Write the equation of the new graph.

Transformations of Functions · 11

The point (-2, 3) is on the graph of y = f(x). Which point must be on the graph of g(x) = 3f(x - 2) - 1?

Transformations of Functions · 12

The graph of y = |x| is reflected across the x-axis, stretched vertically by a factor of 3, shifted 5 units left, then shifted 4 units down. Write the equation of the new graph.

Transformations of Functions · 13

The graph of $y = x^2$ is shifted 5 units left, then shifted 1 unit up. Write the equation of the new graph.

Transformations of Functions · 14

The point (1, -2) is on the graph of y = f(x). Which point must be on the graph of g(x) = f(x + 5) + 4?

Transformations of Functions · 15

The point (-3, 4) is on the graph of y = f(x). Which point must be on the graph of g(x) = -f(x + 3) - 4?

Transformations of Functions · 16

The graph of $y = x^3$ is reflected across the x-axis, stretched vertically by a factor of 2, shifted 4 units left, then shifted 6 units down. Write the equation of the new graph.

Transformations of Functions · 10

ANSWER

$$y = -(x - 6)^2 + 4$$

Transformations of Functions · 9

ANSWER

$$(-8, 12)$$

Transformations of Functions · 12

ANSWER

$$y = -3|x + 5| - 4$$

Transformations of Functions · 11

ANSWER

$$(0, 8)$$

Transformations of Functions · 14

ANSWER

$$(-4, 2)$$

Transformations of Functions · 13

ANSWER

$$y = (x + 5)^2 + 1$$

Transformations of Functions · 16

ANSWER

$$y = -2(x + 4)^3 - 6$$

Transformations of Functions · 15

ANSWER

$$(-6, -8)$$

Transformations of Functions · 17

The point (-2, -1) is on the graph of y = f(x). Which point must be on the graph of g(x) = 3f(x - 4) - 3?

Transformations of Functions · 18

The graph of $y = x^3$ is reflected across the x-axis, shifted 1 unit right, then shifted 3 units down. Write the equation of the new graph.

Transformations of Functions · 19

The graph of y = |x| is reflected across the x-axis, shifted 3 units right, then shifted 5 units up. Write the equation of the new graph.

Transformations of Functions · 20

The point (-1, -3) is on the graph of y = f(x). Which point must be on the graph of g(x) = 2f(x + 3) + 1?

Transformations of Functions · 21

The point (4, 2) is on the graph of y = f(x). Which point must be on the graph of g(x) = f(x - 5) - 3?

Transformations of Functions · 22

The graph of $y = x^3$ is stretched vertically by a factor of 3, then shifted 4 units left. Write the equation of the new graph.

Transformations of Functions · 23

The point (0, 4) is on the graph of y = f(x). Which point must be on the graph of g(x) = f(x + 5) + 3?

Transformations of Functions · 24

The graph of y = |x| is reflected across the x-axis, stretched vertically by a factor of 2, then shifted 1 unit left. Write the equation of the new graph.

Transformations of Functions · 18

ANSWER

$y = -(x - 1)^3 - 3$

Transformations of Functions · 17

ANSWER

$(2, -6)$

Transformations of Functions · 20

ANSWER

$(-4, -5)$

Transformations of Functions · 19

ANSWER

$y = -|x - 3| + 5$

Transformations of Functions · 22

ANSWER

$y = 3(x + 4)^3$

Transformations of Functions · 21

ANSWER

$(9, -1)$

Transformations of Functions · 24

ANSWER

$y = -2|x + 1|$

Transformations of Functions · 23

ANSWER

$(-5, 7)$