Transformations of Functions · 1

The graph of $y = |x|$ is stretched vertically by a factor of 3, shifted 1 unit right, then shifted 5 units up. Write the equation of the new graph.

Transformations of Functions · 2

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

Transformations of Functions · 3

The point (0, -2) is on the graph of $y = f(x)$. Which point must be on the graph of $g(x) = 2f(x) + 1$?

Transformations of Functions · 4

The graph of $y = x^3$ is shifted 3 units right, then shifted 6 units down. Write the equation of the new graph.

Transformations of Functions · 5

The point (2, -3) 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 · 6

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

Transformations of Functions · 7

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

Transformations of Functions · 8

The point (0, -3) is on the graph of $y = f(x)$. Which point must be on the graph of $g(x) = -f(x - 2) + 5$?

Transformations of Functions · 2

ANSWER

$(0, 0)$

Transformations of Functions · 1

ANSWER

$y = 3|x - 1| + 5$

Transformations of Functions · 4

ANSWER

$y = (x - 3)^3 - 6$

Transformations of Functions · 3

ANSWER

$(0, -3)$

Transformations of Functions · 6

ANSWER

$y = 3|x - 2| + 3$

Transformations of Functions · 5

ANSWER

$(5, 1)$

Transformations of Functions · 8

ANSWER

$(2, 8)$

Transformations of Functions · 7

ANSWER

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

Transformations of Functions · 9

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

Transformations of Functions · 10

The graph of $y = x^2$ is stretched vertically by a factor of 3, shifted 4 units right, then shifted 5 units up. Write the equation of the new graph.

Transformations of Functions · 11

The point (5, 1) 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 · 12

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

Transformations of Functions · 13

The graph of $y = x^2$ is stretched vertically by a factor of 2, then shifted 4 units left. Write the equation of the new graph.

Transformations of Functions · 14

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

Transformations of Functions · 15

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

Transformations of Functions · 16

The graph of $y = x^2$ is shifted 6 units left, then shifted 6 units down. Write the equation of the new graph.

Transformations of Functions · 10

ANSWER

$y = 3(x - 4)^2 + 5$

Transformations of Functions · 9

ANSWER

$(4, -4)$

Transformations of Functions · 12

ANSWER

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

Transformations of Functions · 11

ANSWER

$(2, 5)$

Transformations of Functions · 14

ANSWER

$(-2, 0)$

Transformations of Functions · 13

ANSWER

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

Transformations of Functions · 16

ANSWER

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

Transformations of Functions · 15

ANSWER

$(6, 1)$

Transformations of Functions · 17

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

Transformations of Functions · 18

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

Transformations of Functions · 19

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

Transformations of Functions · 20

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

Transformations of Functions · 21

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

Transformations of Functions · 22

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

Transformations of Functions · 23

The point (-1, 3) 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 · 24

The graph of $y = x^3$ is 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 · 18

ANSWER

$y = -2x^2 + 4$

Transformations of Functions · 17

ANSWER

$(-10, -3)$

Transformations of Functions · 20

ANSWER

$(-5, -3)$

Transformations of Functions · 19

ANSWER

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

Transformations of Functions · 22

ANSWER

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

Transformations of Functions · 21

ANSWER

$(6, -10)$

Transformations of Functions · 24

ANSWER

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

Transformations of Functions · 23

ANSWER

$(2, 1)$