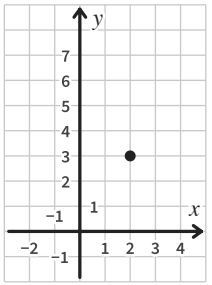
Graph transformations: where does the point go?

1

(2, 3) is on the graph of $y = f(x)$. Where is it on the graph of $y = f(x) + 4$?



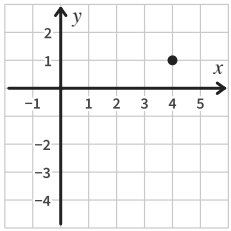
	x	y
before	2	3
after	2	

Rule outside the bracket changes y

Answer

2

(4, 1) is on the graph of $y = f(x)$. Where is it on the graph of $y = f(x) - 3$?

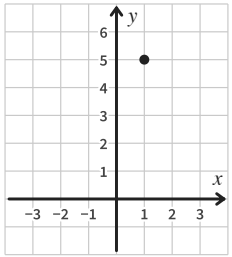


	x	y
before	4	1
after		

Answer

3 *Notice the change!*

(1, 5) is on the graph of $y = f(x)$. Where is it on the graph of $y = f(x + 2)$?

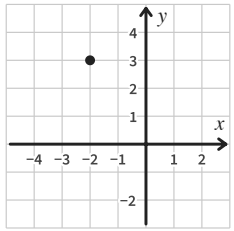


	x	y
before	1	5
after		

Answer

4

(−2, 3) is on the graph of $y = f(x)$.
Where is it on the graph of $y = f(x - 3)$?

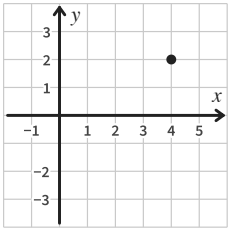


	x	y
before	−2	3
after		

Answer

5 *Notice the change!*

(4, 2) is on the graph of $y = f(x)$. Where is it on the graph of $y = -f(x)$?

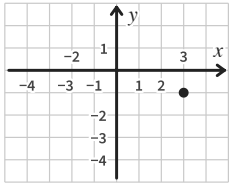


	x	y
before	4	2
after		

Answer

6

(3, −1) is on the graph of $y = f(x)$.
Where is it on the graph of $y = f(-x)$?

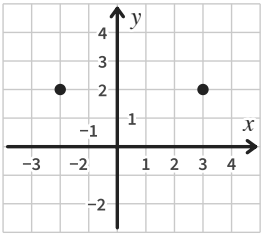


	x	y
before	3	−1
after		

Answer

7 *Notice the change!*

(3, 2) is on the graph of $y = f(x)$.
After a transformation it is at (−2, 2).
Write down the equation of the new graph.



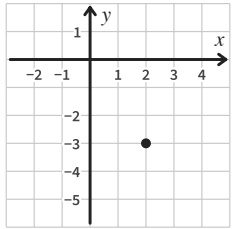
x changes

y changes?

New graph

8

$y = f(x)$ has a minimum point at (2, −3).
Write down the minimum point of $y = f(x - 1)$.



	x	y
before	2	−3
after		

Minimum point

Graph transformations: where does the point go? *further practice*

9

$(-4, 2)$ is on the graph of $y = f(x)$.
Where is it on the graph of $y = f(x) - 5$?

Answer _____

10

$(0, 6)$ is on the graph of $y = f(x)$.
Where is it on the graph of $y = f(x - 2)$?

Answer _____

11

$(5, -3)$ is on the graph of $y = f(x)$.
Where is it on the graph of $y = -f(x)$?

Answer _____

12

$(-1, 4)$ is on the graph of $y = f(x)$.
After a reflection it is at $(1, 4)$.
Write down the equation of the new graph.

Answer _____

13

$y = f(x)$ has a maximum point at $(-2, 5)$.
Write down the maximum point of $y = f(x + 4)$.

Answer _____

14

$(6, 1)$ is on the graph of $y = f(x)$.
Jonah says that on the graph of $y = f(x - 2)$ it is at $(4, 1)$.
Explain his mistake and give the right point.

Answer _____

15

$(3, 2)$ is on the graph of $y = f(x)$.
Where is it on the graph of $y = f(x - 1) + 4$?

Answer _____

16

$(-2, -5)$ is on the graph of $y = f(x)$.
Where is it on the graph of $y = -f(x) + 3$?

Answer _____