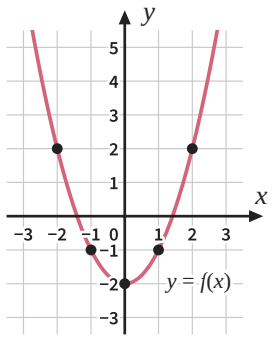
Graph transformations: translations

1

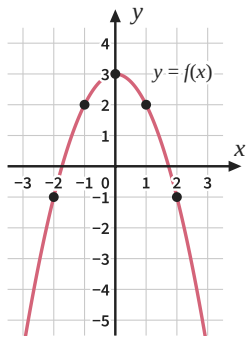
Sketch the graph of $y = f(x) + 2$.



x	−2	−1	0	1	2
$f(x)$	2	−1	−2	−1	2
$f(x) + 2$	4				

2

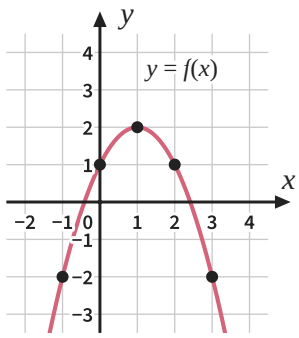
Sketch the graph of $y = f(x) - 3$.



x	−2	−1	0	1	2
$f(x)$	−1	2	3	2	−1
$f(x) - 3$					

3

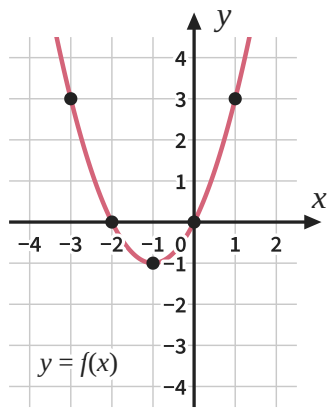
Sketch the graph of $y = f(x) + 1$.



x	−1	0	1	2	3
$f(x)$					
$f(x) + 1$					

4

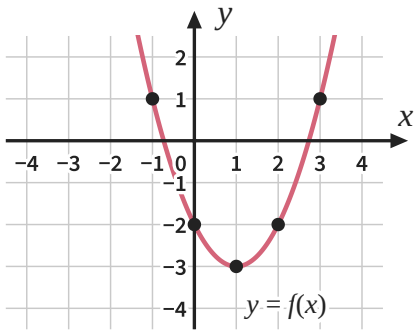
Sketch the graph of $y = f(x) - 2$.



The graph moves _____

5

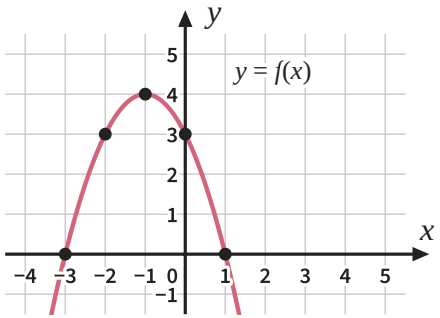
Sketch the graph of $y = f(x + 2)$.



x	−3	−2	−1	0	1
$x + 2$	−1	0	1	2	3
$f(x + 2)$	1				

6

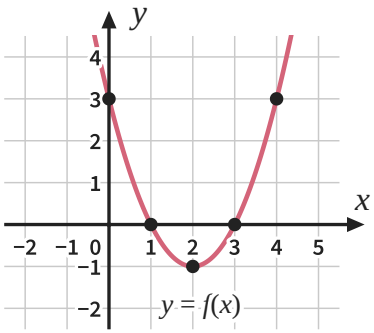
Sketch the graph of $y = f(x - 3)$.



x	0	1	2	3	4
$x - 3$	−3	−2	−1	0	1
$f(x - 3)$					

7

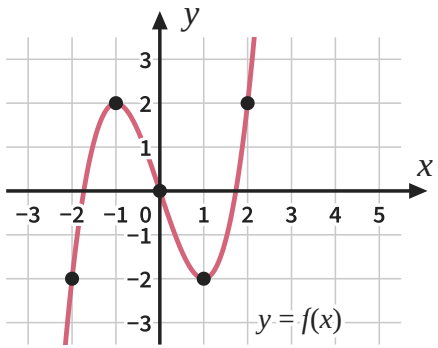
Sketch the graph of $y = f(x + 1)$.



x	−1	0	1	2	3
$x + 1$					
$f(x + 1)$					

8

Sketch the graph of $y = f(x - 2)$.

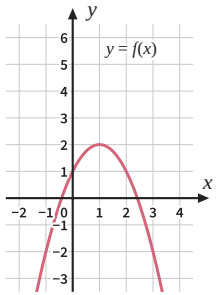


The graph moves _____

Graph transformations: translations *further practice*

9

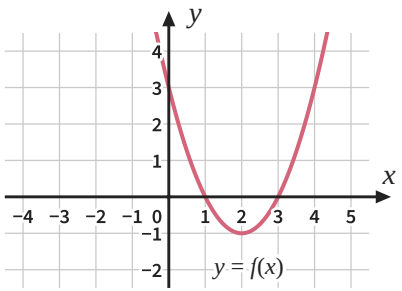
Sketch the graph of $y = f(x) + 3$.



Answer

10

Sketch the graph of $y = f(x + 3)$.



Answer

11

P(2, −1) is on the graph of $y = f(x)$.
Where is P on the graph of $y = f(x) - 4$?
And on the graph of $y = f(x - 4)$?

Answer

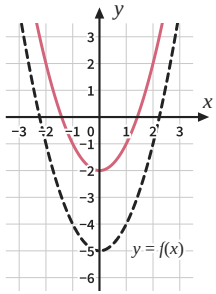
12

A water slide follows the graph of $y = f(x)$. Its top is T(−3, 5). Where is the top of the slide $y = f(x) + 2$?
And of $y = f(x + 5)$?

Answer

13

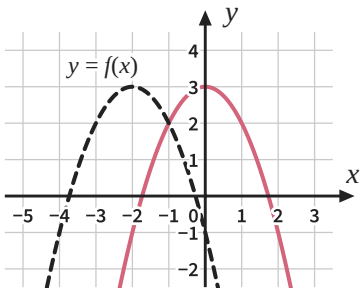
The dashed graph is a translation of $y = f(x)$. Write its equation.



Answer

14

The dashed graph is a translation of $y = f(x)$. Write its equation.



Answer

15

A skate ramp is the graph of $y = f(x)$. Its lowest point is (3, 1). Where is the lowest point of the ramp $y = f(x) + 2$?
And of $y = f(x - 4)$?

Answer

16

Kai says the graph of $y = f(x - 5)$ is the graph of $y = f(x)$ moved 5 to the left. (2, 0) is on $y = f(x)$. Use it to show Kai is wrong.

Answer