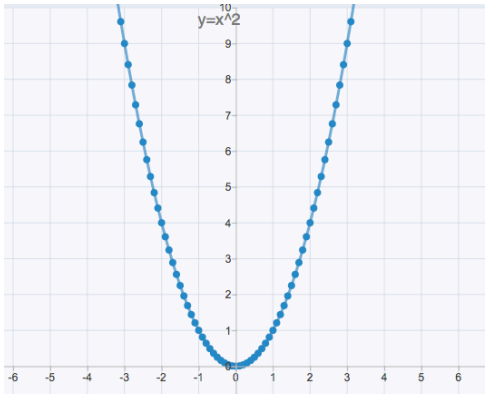
Translation of Functions! **Check-In** **Name:** _____

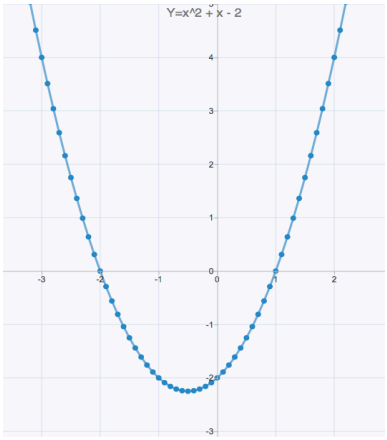
Date: _____

1. A graph of the function $Y=X^2$ is shown at the right. How will the function $Y= X^2 + 7$ look, compared to the way that $Y=X^2$ looks?



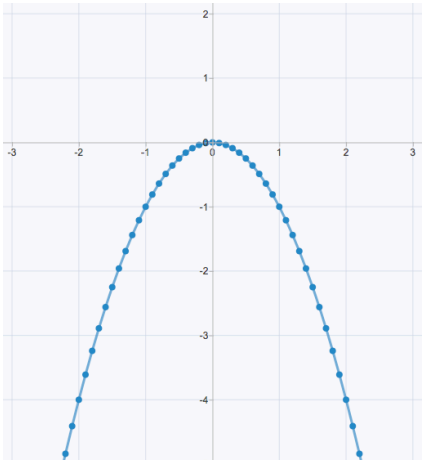
   a. It will move down 7 units
   b. It will move up 7 units
   c. It will move left 7 units
   d. It will move right 7 units

2. A graph of the function $Y=X^2 + X - 2$ is shown at the right. How will the function look if we add 2 to it, so the new function is $Y=X^2 + X$?



   a. It will move down 2 units
   b. It will move up 2 units
   c. It will move left 2 units
   d. It will move right 2 units

3. A graph of the function $Y= -X^2$ is shown at the right. How will the function $Y= - X^2 - 2$ look, in comparison?



   a. It will move down 2 units
   b. It will move up 2 units
   c. It will move left 2 units
   d. It will move right 2 units

(over)

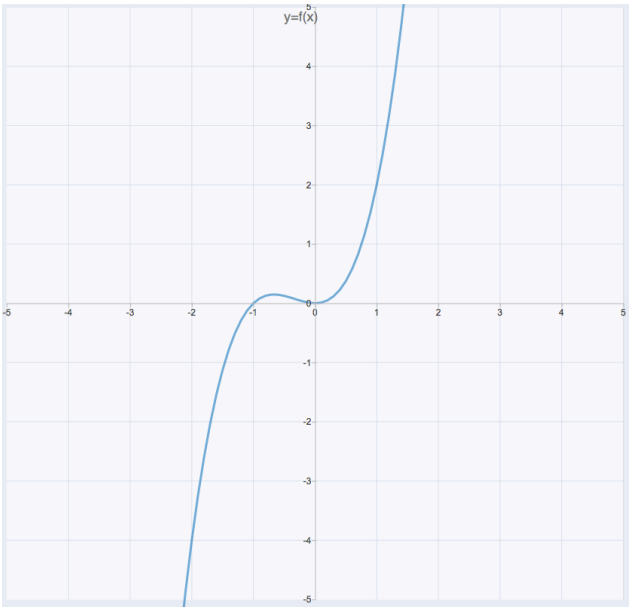
4. Suppose that you graph a particular function, $y = f(x)$. If you graph a second function, $y = f(x) + k$ (where k is a positive number), how will the second function look compared to the first?

   a. It will move up k units
   b. It will move down k units
   c. It will move right k units
   d. It will move left k units

5. If $g(x) = f(x) + k$ (where k is a positive number), which of the following statements is true:

   a. g(x) and f(x) will look identical
   b. g(x) will move k units up from f(x)
   c. g(x) will not cross the x-axis
   d. More information about f(x) is needed to answer the question

6. The graph below shows a function, f(x). On the same axes, sketch the graph of $g(x) = f(x) + 2$



Translation of Function! **Check-In Answers**

1. b 2. b 3. a 4. a 5. B

6. The original function is shown in blue, and the translation is shown in orange: