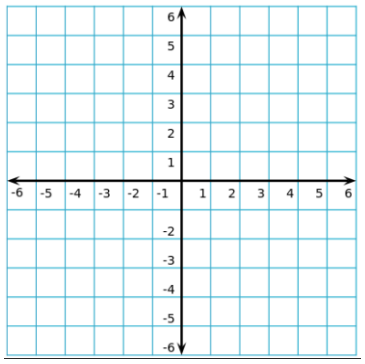
Transformations of Quadratic Functions

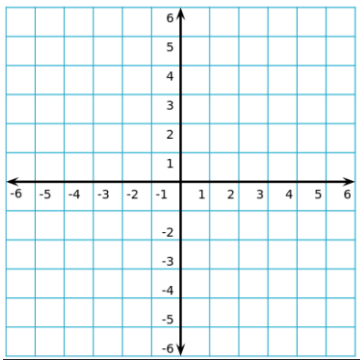
Describe the transformation of $f(x) = x^2$ represented by $g(x)$. Then graph $g(x)$.

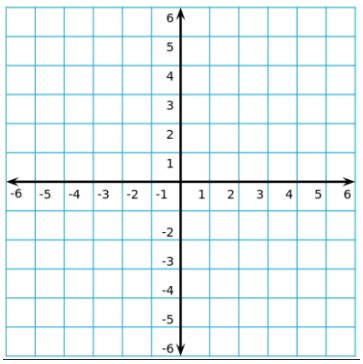
1. $g(x) = x^2 - 3$

2. $g(x) = (x + 5)^2$

3. $g(x) = (x - 2)^2 + 4$



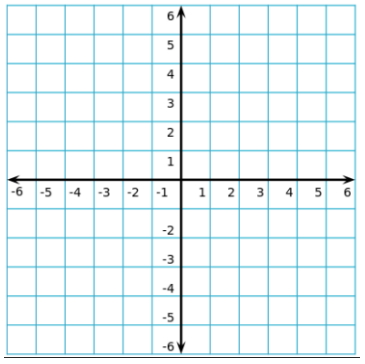


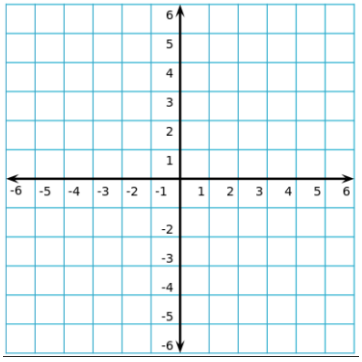


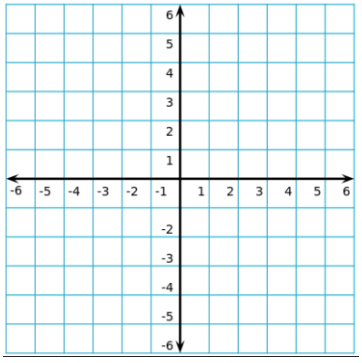
4. $g(x) = -(x + 4)^2 - 1$

5. $g(x) = \frac{1}{2}(x - 1)^2$

6. $g(x) = -2x^2 + 2$







In Exercises 7 – 10, match the function with the correct transformation of the graph f(x).

7. $f(x - 1)$

8. $f(x) + 1$

9. $f(x - 1) + 1$

10. $f(x + 1) - 1$