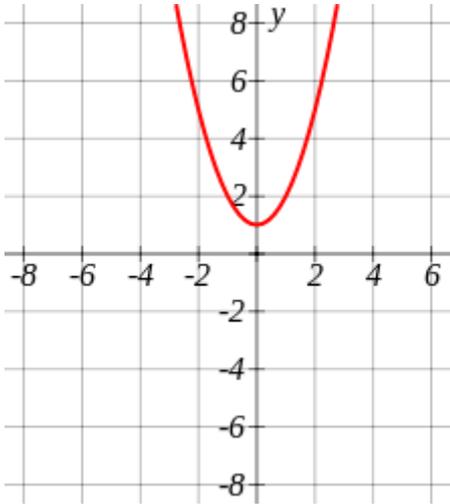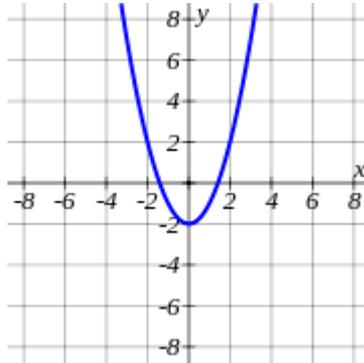# Transformation of Functions
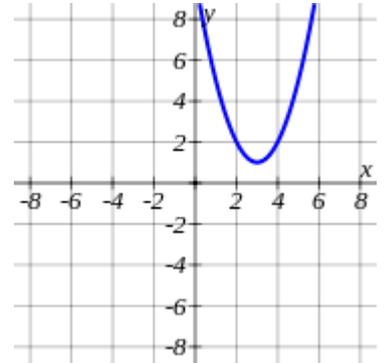
1) The graph of $y = f(x)$ where $f(x) = x^2 + 1$ is shown below. Identify which of the following graphs [1] represents a sketch of $f(x + 3)$.
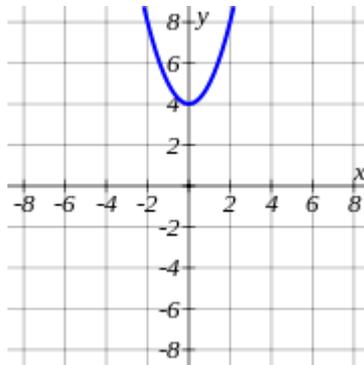

A:

B:

C:

D:

2) The graph of $y = f(x)$ where $f(x) = 2x^2 + 3$ is shown below. Identify which of the following   [1] graphs represents a sketch of $f(x) - 2$.

A:

B:

C:

D:
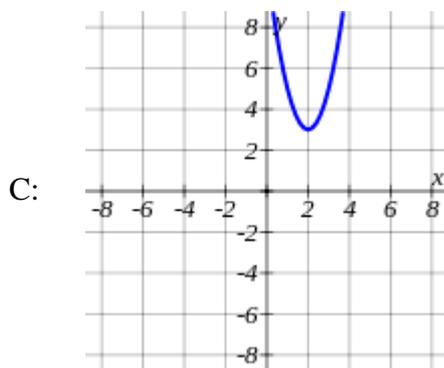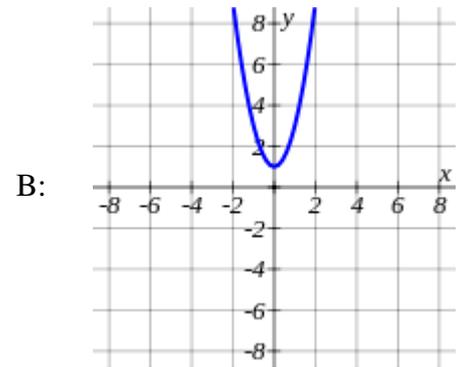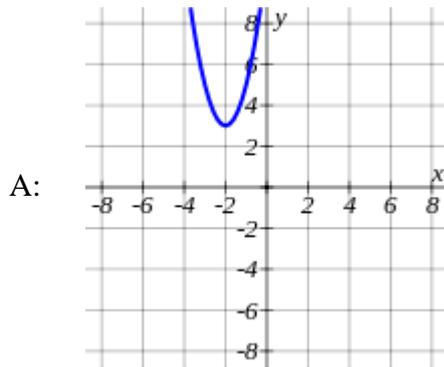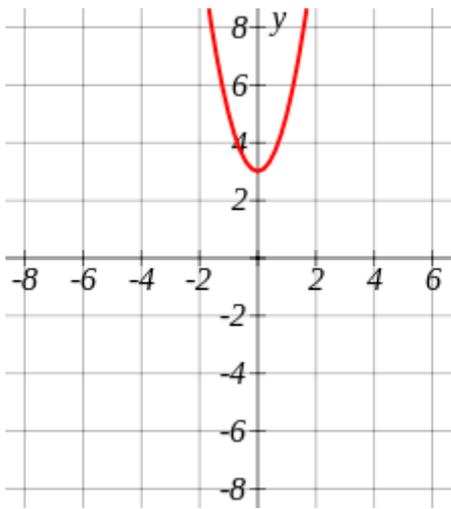
3) The graph of $y = f(x)$ where $f(x) = x^2 + 3$ is shown below. Identify which of the following graphs   [1] represents a sketch of $f(3x)$.
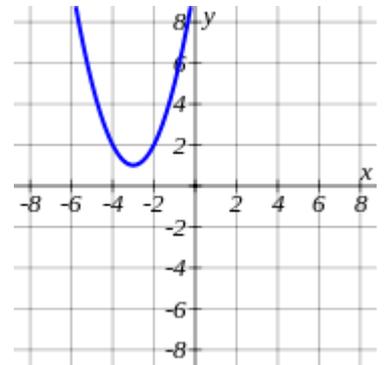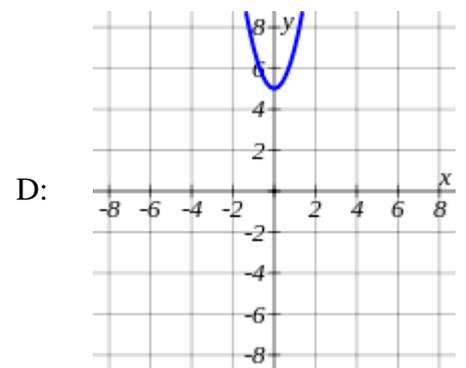

A:

B:

C:

D:
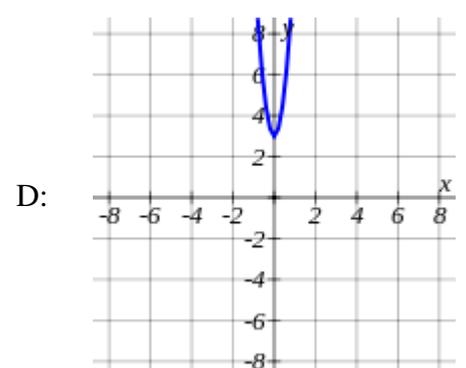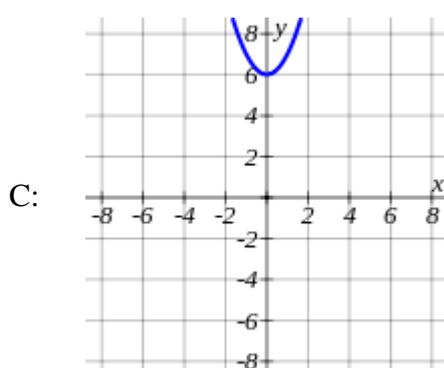
4) The graph of $y = f(x)$ where $f(x) = x^2 + 3$ is shown below. Identify which of the following graphs [1] represents a sketch of $3f(x)$.

A:

B:

C:

D:

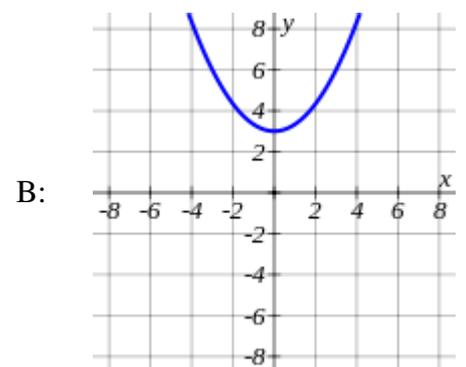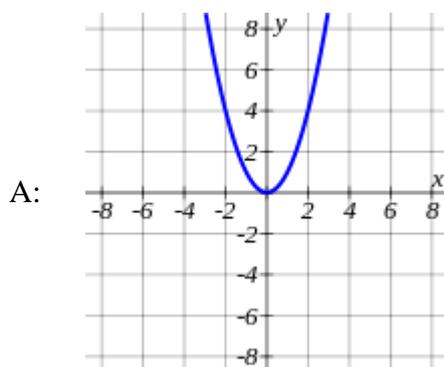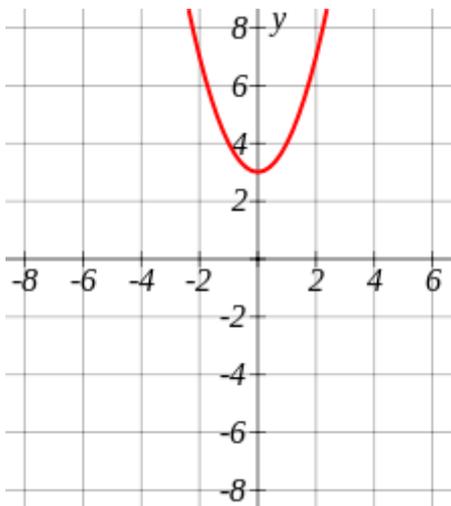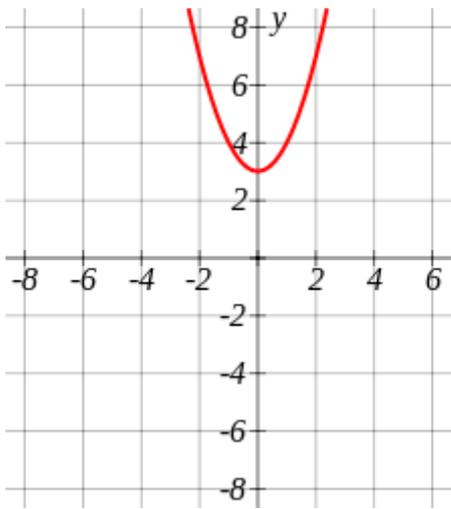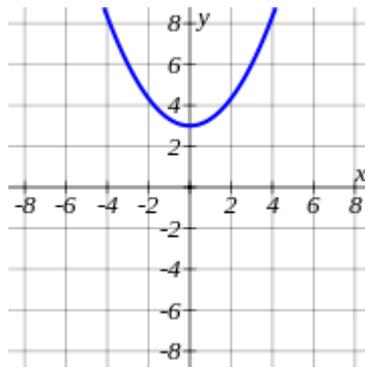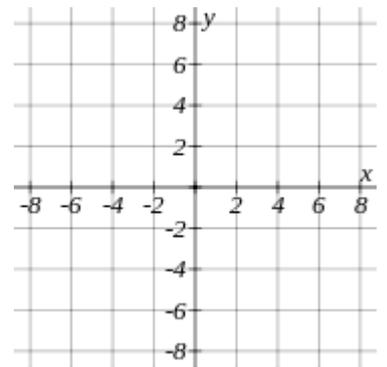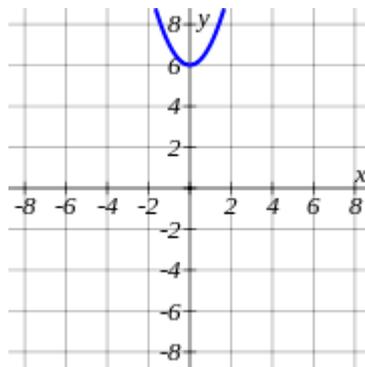**5)** The graph of $y = f(x)$ where $f(x) = -2x^2 - 2$ is shown below. On the other grid, draw the graph [1] of $-f\left(\frac{1}{2}x\right)$

.

6) The graph of $y = f(x)$ where $f(x) = x^2 + 1$ is shown below. On the other grid, draw the graph of $2f(-3x)$. [1]

7) The graph of $y = f(x)$ where $f(x) = x^2 - 1$ is shown below. On the other grid, draw the graph of $f(2x - 2)$. [1]

8) The graph of $y = f(x)$ where $f(x) = x^2 + 1$ is shown below. On the other grid, draw the graph   [1]
of $3f(x) + 1$.

9) The graph of $y = f(x)$ where $f(x) = -x^2$ is shown below. Identify which of the following graphs   [1]
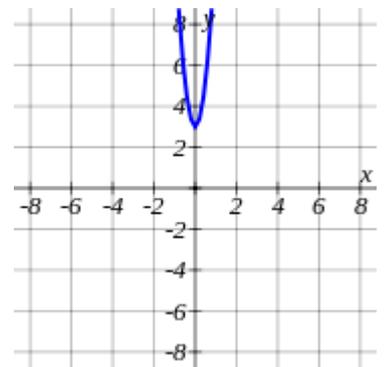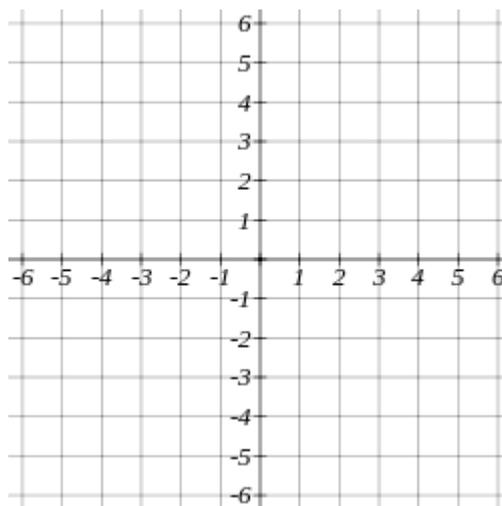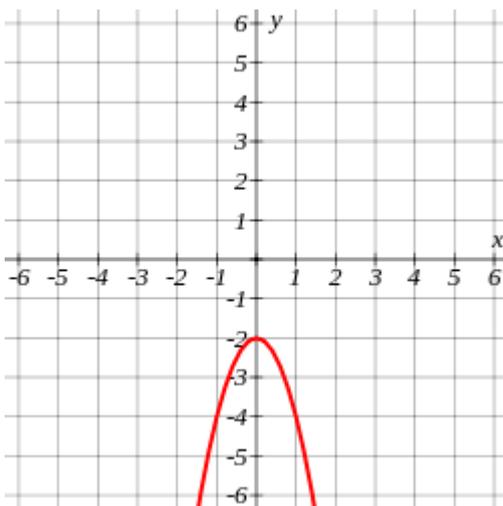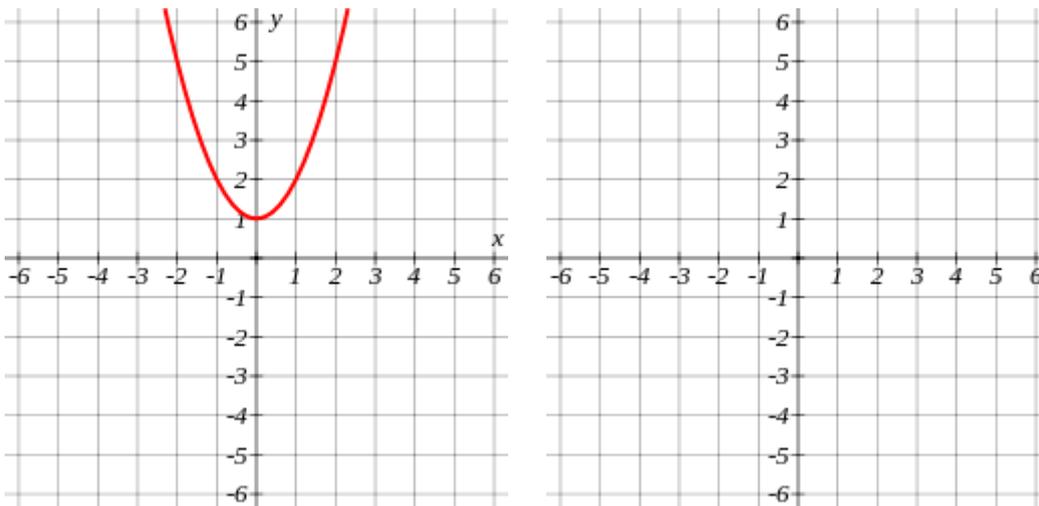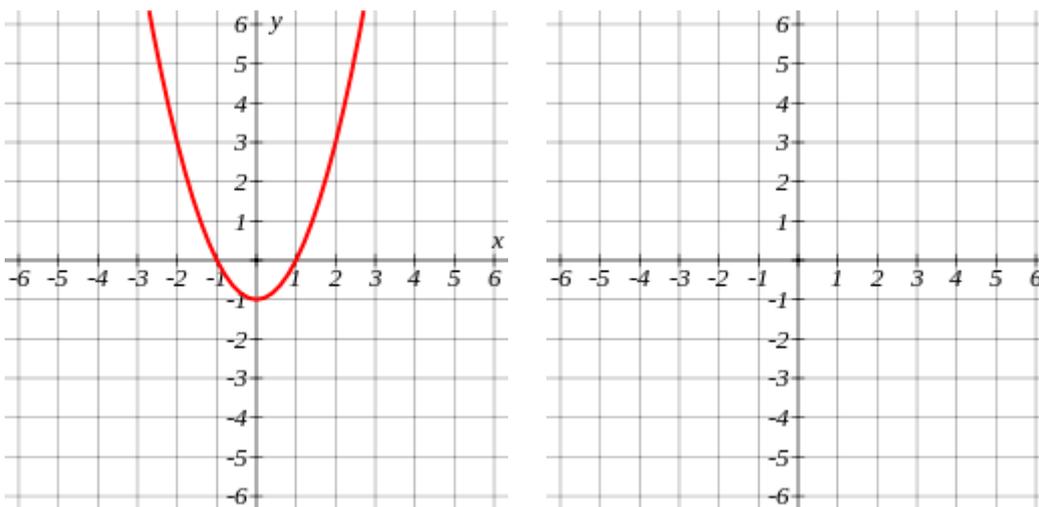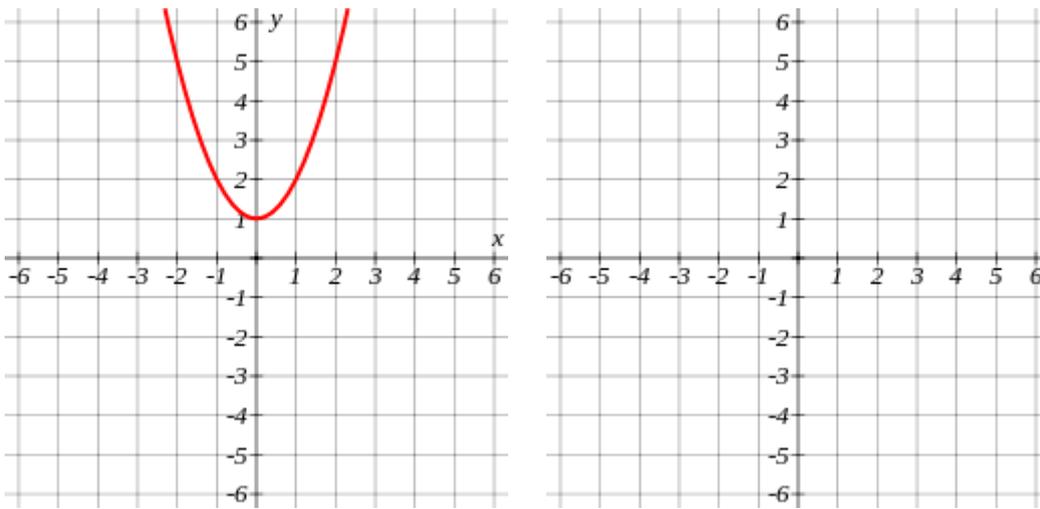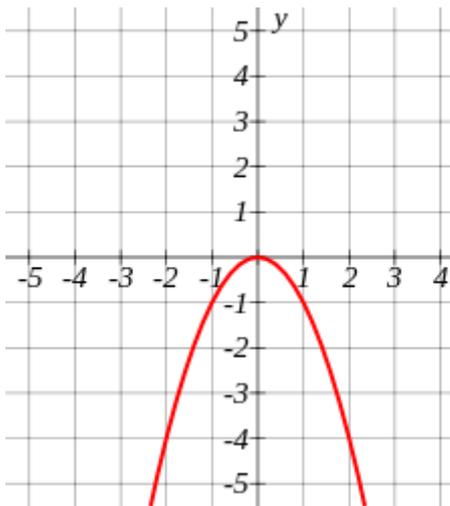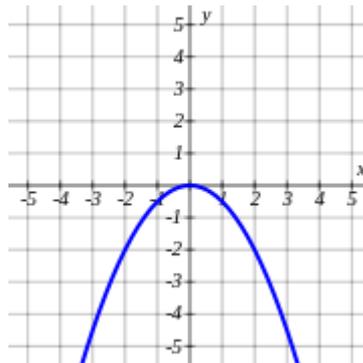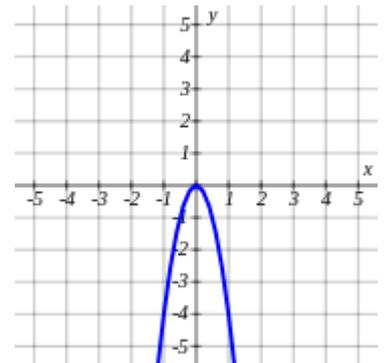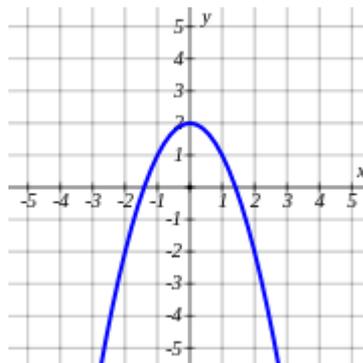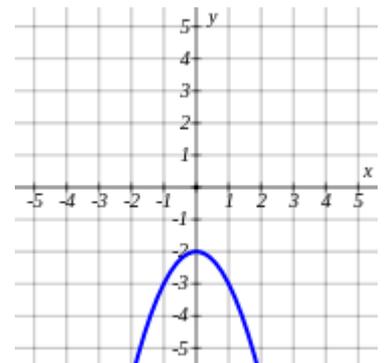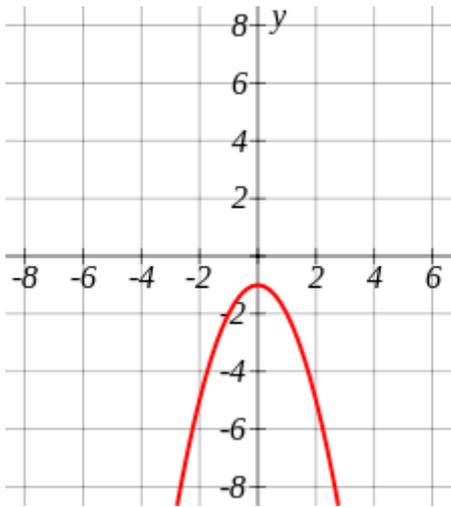represents a sketch of $f(2x)$.
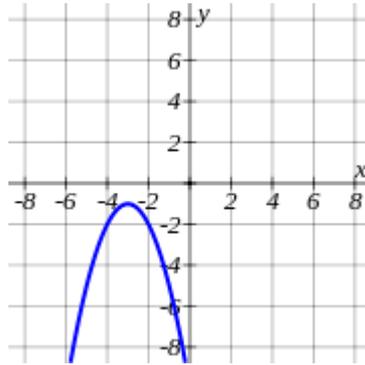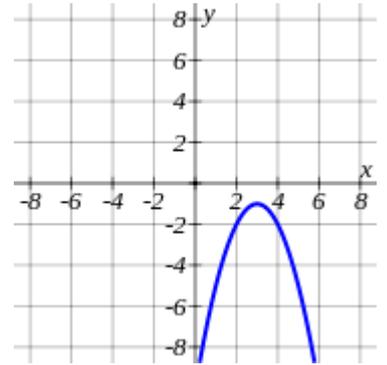

A:

B:

C:

D:

10) The graph of $y = f(x)$ where $f(x) = -x^2 - 1$ is shown below. Identify which of the following [1] graphs represents a sketch of $f(x) + 3$.
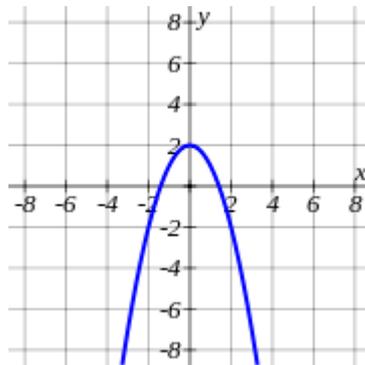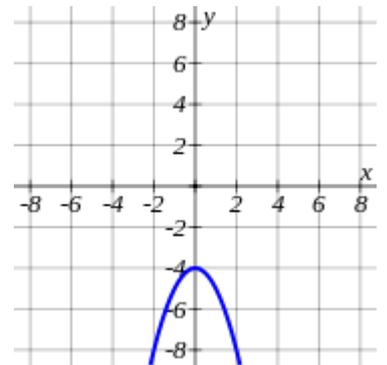
A:

B:

C:

D:

11) The graph of $y = f(x)$ where $f(x) = -x^2 + 3$ is shown below. On the other grid, sketch the graph [1] of $2f(x)$.