TRANSFORMATIONS OF GRAPHS

$y = f(x) + k$ shifts a graph vertically.

- If k is positive, then the graph shifts up k units.
- If k is negative, then the graph shifts down k units.

$y = f(x + k)$ shifts a graph horizontally.

- If k is positive, then the graphs shifts left k units.
- If k is negative, the graph shifts right k units.

$y = -f(x)$ causes the graph to reflect on the x-axis.

$y \in f(-x)$ causes the graph to reflect on the y-axis.