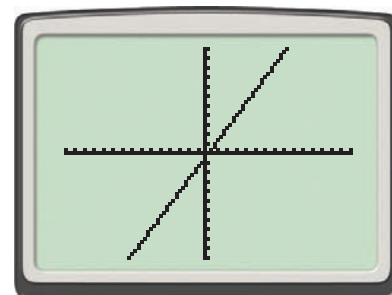


1-3

Transforming Linear Functions

Use a graphing calculator to explore transformations of linear functions. Begin by graphing $y = 2x$.



1. Graph $y = 2x + 3$ on the same coordinate plane as $y = 2x$. How does the graph of this function compare to that of $y = 2x$?
2. Graph $y = 2x - 2$ on the same coordinate plane as $y = 2x$. How does the graph of this function compare to that of $y = 2x$?
3. Graph $y = 2(x - 3)$ on the same coordinate plane as $y = 2x$. How does the graph of this function compare to that of $y = 2x$?
4. Graph $y = 2(x + 2)$ on the same coordinate plane as $y = 2x$. How does the graph of this function compare to that of $y = 2x$?

THINK AND DISCUSS

5. **Describe** how the graph of $y = -4x + k$ is related to the graph of $y = -4x$.
6. **Explain** how you can use what you discovered to quickly graph $y = 3(x - 5)$.