Example 6   **Translate a table of values for a function into a graph and an algebraic equation.**

Rachel starts cycling a distance away from her house at a constant rate. The table shows her distance from home, y meters, as a function of the time she takes to cycle, x seconds.

Time Taken (x seconds)	0	1	2	3	4	5
Distance from Home (y meters)	6	10	14	18	22	26

a) Graph the function. Use 1 unit on the horizontal axis to represent 1 second for the x interval from 0 to 5, and 1 unit on the vertical axis to represent 4 meters for the y interval from 6 to 26.
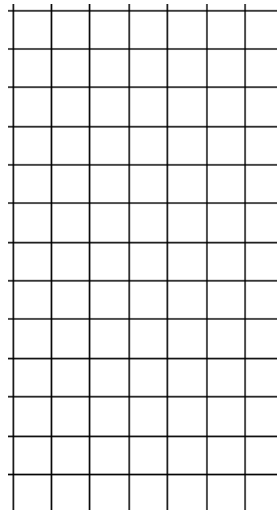
b) Write an algebraic equation for the function.

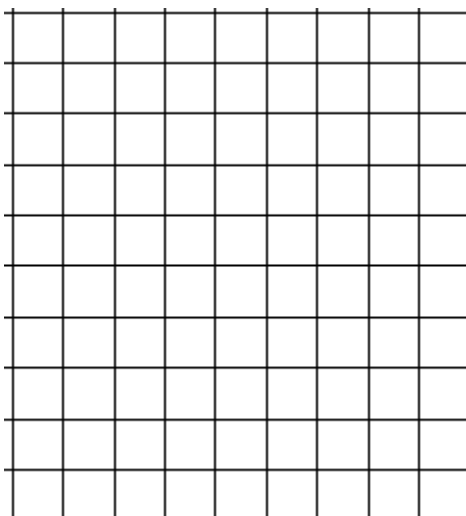c) Describe how the slope and the y-intercept of the graph are related to the function.

Guided Practice

Complete.

3 The table shows the total distance, y miles, indicated on the odometer of Jason's car and the amount of gasoline used, x gallons, on a particular day.

Amount of Gasoline (x gallons)	0	1	2	3	4	5
Total Distance (y miles)	1,000	1,030	1,060	1,090	1,120	1,150

a) Graph the function. Use 1 unit on the horizontal axis to represent 1 gallon for the x interval from 0 to 5, and 1 unit on the vertical axis to represent 30 miles for the y interval from 1,000 to 1,150.

b) Write an algebraic equation for the function.

c) Describe how the slope and the y-intercept of the graph are related to the function.