4 CHAPTER SUMMARY

Animated Algebra
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BIG IDEAS

For Your Notebook

Big Idea 1

TEKS A.5.C

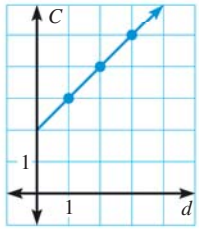
Graphing Linear Equations and Functions Using a Variety of Methods

You can graph a linear equation or function by making a table, using intercepts, or using the slope and y-intercept.

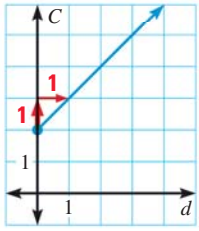
A taxi company charges a \$2 fee to pick up a customer plus \$1 per mile to drive to the customer's destination. The total cost C (in dollars) that a customer pays to travel d miles is given by $C = d + 2$. Graph this function.

Method: Make a table.

d	C
0	2
1	3
2	4
3	5



Method: Use slope and *C*-intercept.



Big Idea 2

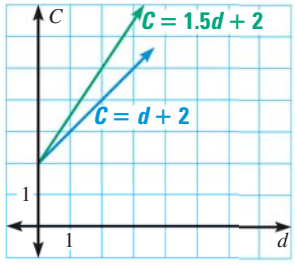
TEKS A.6.C

Recognizing How Changes in Linear Equations and Functions Affect Their Graphs

When you change the value of m or b in the equation $y = mx + b$, you produce an equation whose graph is related to the graph of the original equation.

Suppose the taxi company raises its rate to \$1.50 per mile. The total amount that a customer pays is given by $C = 1.5d + 2$. Graph the function.

You can see that the graphs have the same *C*-intercept, but different slopes.



Big Idea 3

TEKS A.6.F

Using Graphs of Linear Equations and Functions to Solve Real-world Problems

You can use the graphs of $C = d + 2$ and $C = 1.5d + 2$ to find out how much more a customer pays to travel 4 miles at the new rate than at the old rate.

A customer pays \$2 more to travel 4 miles at the new rate.