Name: _____ Date: _____

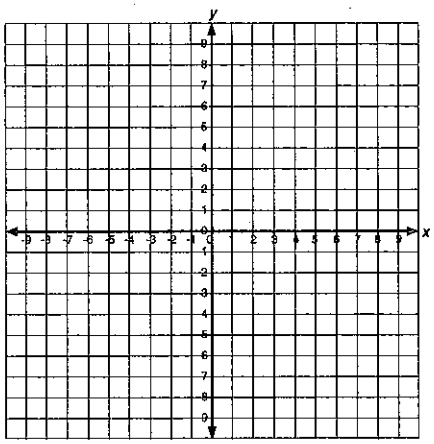
EXPRESSIONS AND EQUATIONS – Proportional Relationships

CCSS Math Content 8.EE.B.5: Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways.

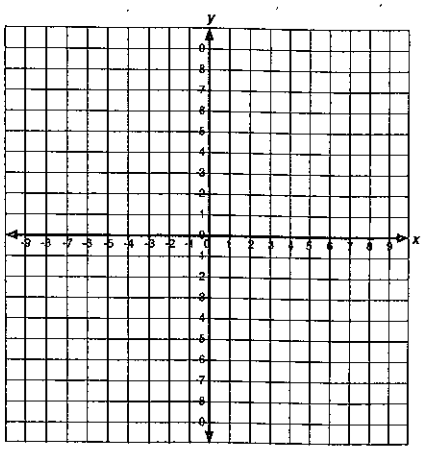
SHARPEN YOUR SKILLS:

1. Graph the proportional relationship represented by the data in the table.

x	*y*
–6	–2
–3	–1
0	0
3	1
6	2



2. Graph the proportional relationship represented by the equation $y = -5x$.

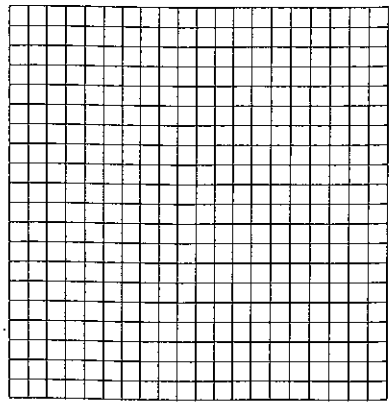


APPLY YOUR SKILLS:

The distance a migrating bog turtle has traveled in a given number of days is shown in the table.

1. Graph the data shown in the table.

Days	Distance (yards)
x	*y*
0	0
2	36
5	90
10	180



2. Draw a line through the data points.

3. Calculate the unit rate and explain what it means in terms of this situation.

_____

4. Write a sentence explaining the relationship between the unit rate and the slope of the line.

_____

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EXPRESSIONS AND EQUATIONS – Proportional Relationships

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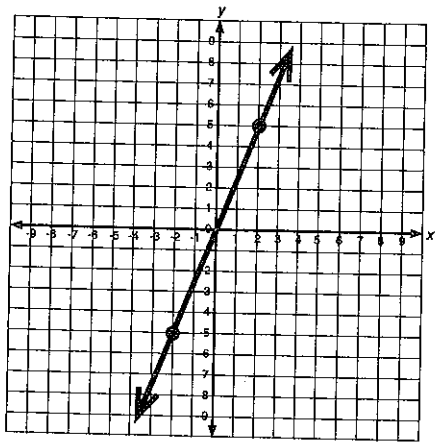
SHARPEN YOUR SKILLS:

Which representation of a proportional relationship has the greater unit rate—the equation $y = 3x$ or the graph shown below? Explain how you determined your answer.



APPLY YOUR SKILLS:

The relationship between the rate at which the diameter of a red maple tree increases over time can be represented by the equation $y = 0.3x$, where x represents the number of years and y represents the size of the diameter of the tree in inches. The growth of a red oak tree is shown in the graph below. Which type of tree has a greater change in diameter over time? Explain how you determined your answer.