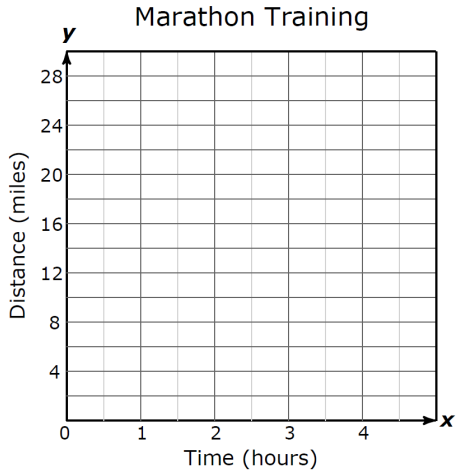
7.4ABC.1 Micro-Lesson
Representing and Calculating Constant Rate of Change with a Graph

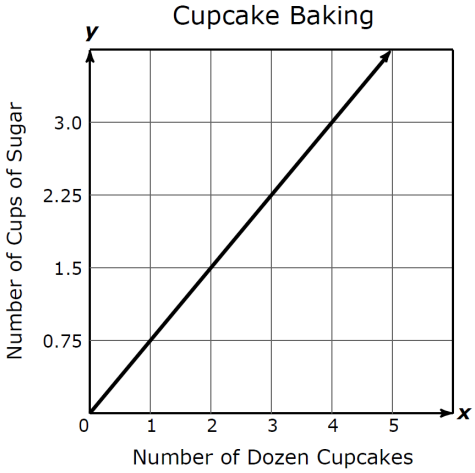
1 Derrick is training for a marathon. He can run 6 miles per hour.

a) Use this information to complete the graph.



b) Derrick ran 18 miles in _____ hours.

2 Julia is baking cupcakes for a bake sale. Use the graph to answer the questions below.



a) Calculate the unit rate: _____ cups of sugar per 1 dozen cupcakes

b) Determine the constant of proportionality: _____

c) Julia will use _____ cups of sugar to bake 3 dozen cupcakes.

7.4A: I can represent constant rates of change in mathematical and real-world problems given pictorial, tabular, verbal, numeric, **graphical,** and algebraic **representations, including *d=rt*.**
7.4B: I can calculate unit rates from rates in mathematical and real-world problems.
7.4C: I can determine the constant of proportionality (*k=y/x*) within mathematical and real-world problems.

7.4ABC.1 Practice 1
Representing Constant Rate of Change with a Graph

For each problem, a) complete the graph and b) fill in the blank.

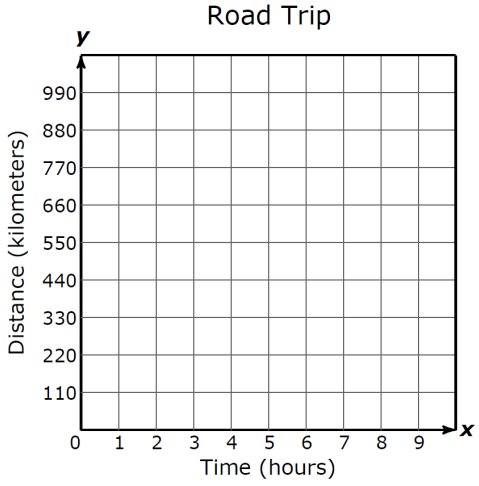
1 Reagan charges $8 per hour for walking dogs on the weekends.

a)

b) Reagan will charge $_____ for walking dogs for 1.5 hours.

2 Eric is taking a road trip and is traveling at 55 kilometers in $\frac{1}{2}$ hour.

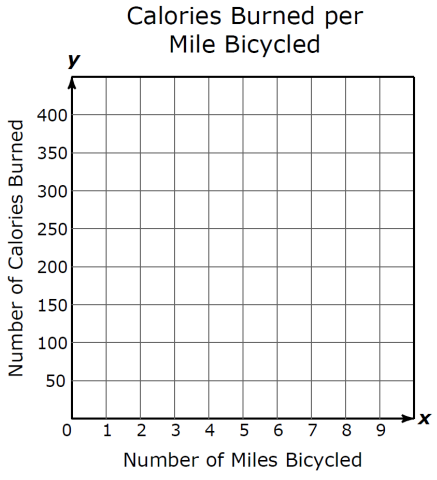
a)



b) Eric will travel 880 kilometers in _____ hours.

3 A bicyclist can burn 400 calories after riding for 8 miles.

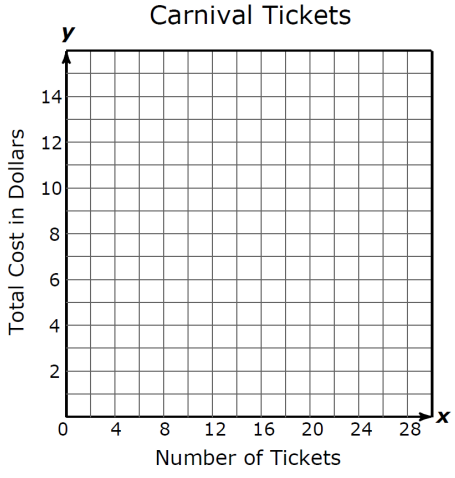
a)



b) A person who bicycles _____ miles will burn 300 calories.

4 Carnival tickets are available at the local fair and cost $0.50 per ticket.

a)

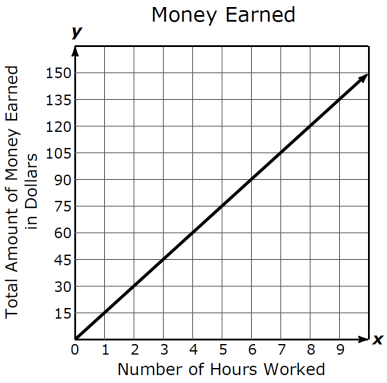


b) 18 carnival tickets will cost $_____.

7.4ABC.1 Practice 2
Calculating Constant Rate of Change with a Graph

For each problem, use the graph to answer the questions.

1 Nadia works at a clothing store. The graph shows *y*, the amount of money she earns, for *x* hours.

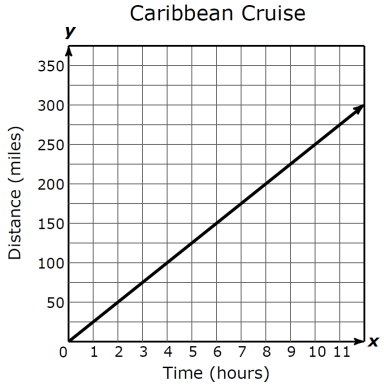


a) Calculate the unit rate: $_____ per hour

b) Determine the constant of proportionality: _____

c) Nadia will earn $_____ for working 8 hours.

2 Ben is taking a Caribbean cruise. The graph shows the distance in miles, *y*, for *x* hours.

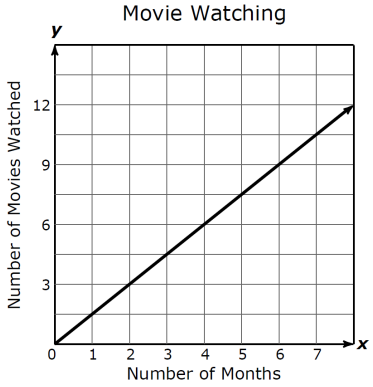


a) Calculate the unit rate: _____ miles per hour

b) Determine the constant of proportionality: _____

c) It will take _____ hours to travel 250 miles.

3 Jamie likes watching movies. The graph shows the relationship between the number of movies watched, *y*, and the time in months, *x*.



a) Calculate the unit rate: _____ movies watched per month

b) Determine the constant of proportionality: _____

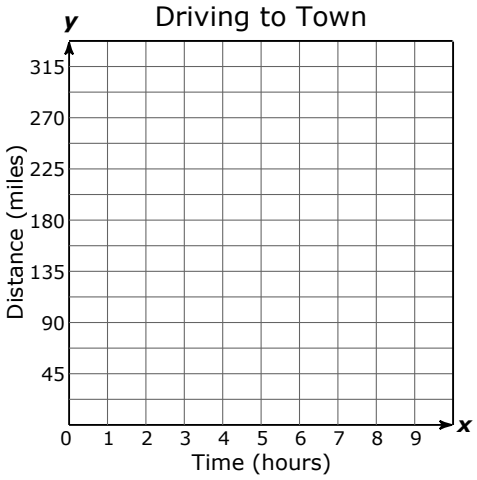
c) Jamie can watch _____ movies in 5 months.

7.4ABC.1 Micro-Assessment
Representing and Calculating Constant Rate of Change with a Graph

1 Eleanor drove into town at a constant rate of 45 miles per hour.

Graph the line that best represents the relationship between the time in hours, x, and the distance in miles, y, Eleanor traveled if she traveled at a constant speed.

Select two points on the coordinate grid. Draw a line to connect the points.



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2 The graph shows the relationship between the total amount of money spent and the number of pounds of pineapples bought.

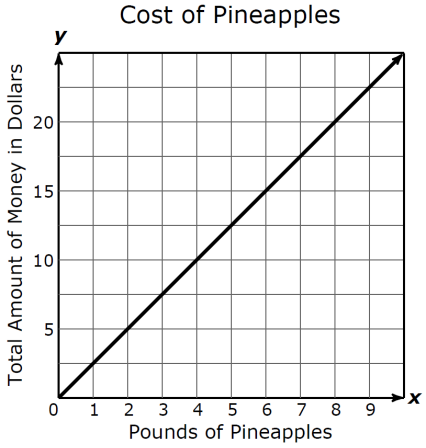
What is the cost per pound of pineapple?

F $2.50

G $5.00

H $0.40

J $0.20



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3 Bryanna can read 3 books in 9 weeks. Which three points lie on the line that best represents the number books Bryanna can read each week?

Select **THREE** correct answers.