Name _____ Class _____ Date _____

Practice It!

MA.7.A.1.5 Distinguish direct variation from other relationships...

Direct Variation

Tell whether each equation represents a direct variation. If so, identify the constant of variation.

1. $y = 4x + 1$

2. $y = \frac{1}{3}x$

3. $6y = 12x$

Tell whether each set of data or graph represents a direct variation. If so, identify the constant of variation and then write the direct variation equation.

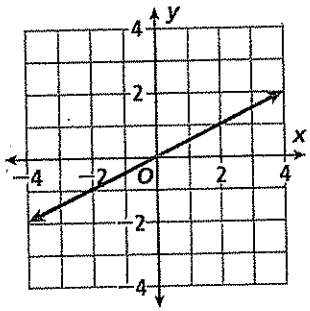
4.

Bags of Soil	2	5	7
Houseplants Potted	16	40	56

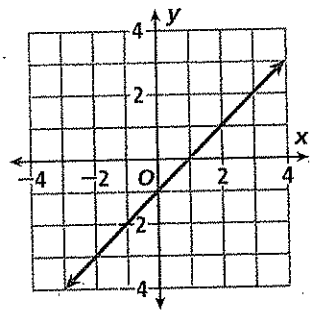
5.

DVDs Rented	2	4	6
Total Cost ($)	8	14	20

6.



7.

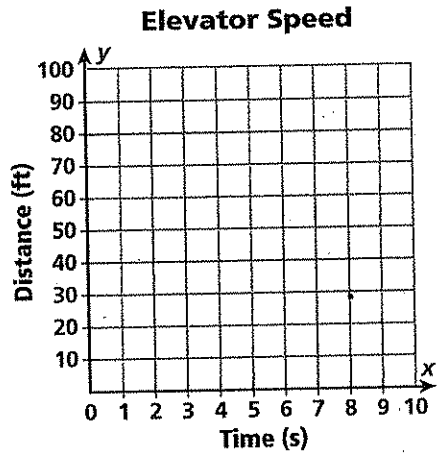


8. An elevator in a skyscraper travels at a rate of 20 feet per second.

   a. Write a direct variation equation for the total distance y that the elevator travels in x seconds.

   b. Graph the data.

   c. How long does it take the elevator to travel 250 feet?



Name _____ Class _____ Date _____

Apply It!

Direct Variation

MA.7.A.1.5 Distinguish direct variation from other relationships...

1. A pipeline delivers 10,422 gallons of natural gas every other month. Tell whether this represents a direct variation. If so, identify the constant of variation and write the equation.

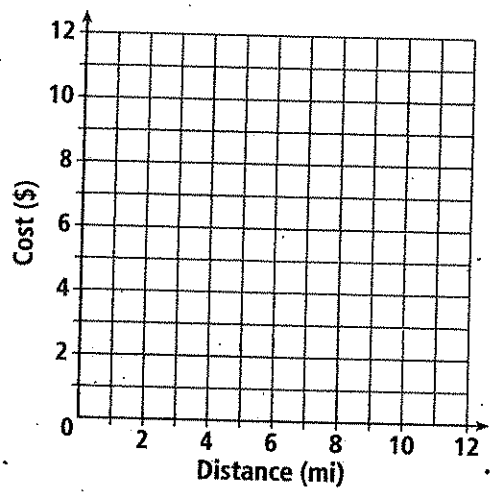
_____

_____

2. The table shows the distances and fares for three different cab rides.

Distance (mi)	2.8	6.5	4.3
Cost ($)	4.74	7.70	5.94

a. Graph the relationship.



b. Does the relationship between cost and distance represent a direct variation? Explain.

_____

_____

_____

For 3–4, use the tables.

Gallons	6	9	27
Miles	192	288	864

Items Shipped	6	12	24
Cost ($)	14	26	50

3. Which set of data represents a direct variation? Give the constant of variation for the data.

_____

4. Assume the relationship in the second table is linear. What is the cost to ship 36 items? Justify your answer.

_____

_____

5. What point must the graph of a direct variation equation pass through?

_____

6. **Short Response** Describe a situation that would describe the direct variation equation $y = 2x$. Write a question for your situation and then use the equation to answer it.

_____

_____

_____