NAME _____ DATE _____ PERIOD _____

Lesson ~~5-1~~ 1-5 Graph Proportional Relationships

A way to determine whether two quantities are proportional is to graph them on a coordinate plane. If the graph is a straight line through the origin, then the two quantities are proportional.

Example 1

A racquetball player burns 7 Calories a minute. Determine whether the number of Calories burned is proportional to the number of minutes played by graphing on the coordinate plane.

Step 1 Make a table to find the number of Calories burned for 0, 1, 2, 3, and 4 minutes of playing racquetball.

Time (min)	0	1	2	3	4
Calories Burned	0	7	14	21	28

CAL / TIME $\frac{7}{1}$ $\frac{14}{2}=\frac{7}{1}$ $\frac{21}{3}=\frac{7}{1}$ $\frac{28}{4}=\frac{7}{1}$

Step 2 Graph the ordered pairs on the coordinate plane. Then connect the ordered pairs.

(X,Y)

¿WHAT DOES THE GRAPH OF A PROPORTIONAL RELATIONSHIP LOOK LIKE?

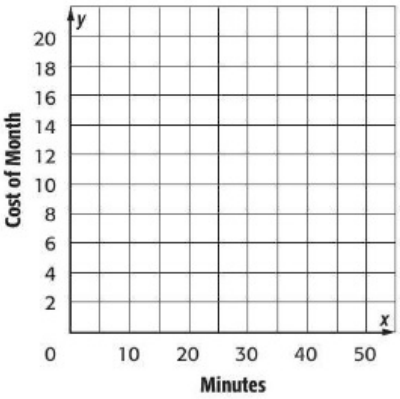
1) THE POINTS FORM A STRAIGHT LINE.

2) THE LINE HAS TO GO THROUGH THE ORIGIN.

The line passes through the origin and is a straight line. So, the number of Calories burned is proportional to the number of minutes of racquetball played.

Exercise

1. Shontell spends \$7 a month plus \$0.10 per minute. Determine whether the cost per month is proportional to the number of minutes by graphing on the coordinate plane.



COST	7	7.10	8	9	10
MINUTES	0	1	10	20	30

$7 + 10(0.10) = 7 + 1 = 8$

$7 + 20(0.10) = 7 + 2 = 9$

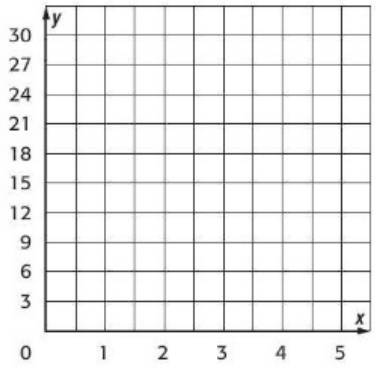
Lesson 5-1 Skills Practice

Graph Proportional Relationships

Determine whether the relationship between the two quantities shown in each table are proportional by graphing on the coordinate plane.

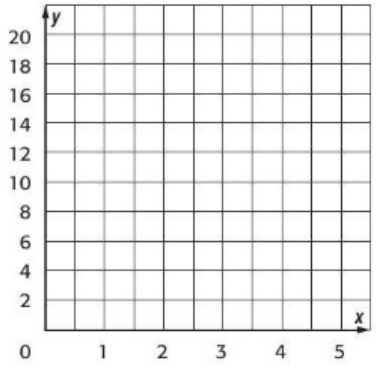
1.

Volume of a Cube	
Side Length (ft)	**Volume (ft^3)**
1	1
2	8
3	27



2.

DVD Rental	
Number of DVDs	**Cost ($)**
1	7
2	9
3	11



3.

Gallons of Gas Used Per Hour	
Number of Hours	**Gallons of Gas**
3	15
4	20
5	25