

Lesson Summary

A type of quantity is proportional to a second if there is a constant number such that the product of each measure of the first type and the constant is equal to the corresponding measure of the second type.

Steps to determine if quantities in a table are proportional to each other:

1. For each row (or column), calculate $\frac{B}{A}$ where A is the measure of the first quantity, and B is the measure of the second quantity.
2. If the value of $\frac{B}{A}$ is the same for each pair of numbers, then the quantities in the table are proportional to each other.

Problem Set

In each table, determine if y is proportional to x . Explain why or why not.

1.

x	y
3	12
5	20
2	8
8	32

2.

x	y
3	15
4	17
5	19
6	21

3.

x	y
6	4
9	6
12	8
3	2

4. Kayla made observations about the selling price of a new brand of coffee that sold in three different-sized bags. She recorded those observations in the following table:

Ounces of Coffee	6	8	16
Price in Dollars	\$2.10	\$2.80	\$5.60

- Is the price proportional to the amount of coffee? Why or why not?
 - Use the relationship to predict the cost of a 20 oz. bag of coffee.
5. You and your friends go to the movies. The cost of admission is \$9.50 per person. Create a table showing the relationship between the number of people going to the movies and the total cost of admission. Explain why the cost of admission is proportional to the amount of people.
6. For every 5 pages Gil can read, his daughter can read 3 pages. Let g represent the number of pages Gil reads, and let d represent the number of pages his daughter reads. Create a table showing the relationship between the number of pages Gil reads and the number of pages his daughter reads. Is the number of pages Gil's daughter reads proportional to the number of pages he reads? Explain why or why not.

7. The table shows the relationship between the number of parents in a household and the number of children in the same household. Is the number of children proportional to the number of parents in the household? Explain why or why not.

Number of Parents	Number of Children
0	0
1	3
1	5
2	4
2	1

8. The table below shows the relationship between the number of cars sold and the amount of money earned by the car salesperson. Is the amount of money earned, in dollars, proportional to the number of cars sold? Explain why or why not.

Number of Cars Sold	Money Earned (in dollars)
1	250
2	600
3	950
4	1,076
5	1,555

9. Make your own example of a relationship between two quantities that is NOT proportional. Describe the situation, and create a table to model it. Explain why one quantity is not proportional to the other.