

LET'S LEARN

PROPORTIONAL RELATIONSHIPS IN TABLES

A proportional relationship in a table is when the **ratio of two quantities is always the same**.

You can identify proportional relationships in tables by calculating the ratio of each pair of values. This constant value is called the constant of proportionality.

If all the ratios are the same, that is the value of constant of proportionality is same , then , the table shows a proportional relationship

LET'S APPLY

Q1) Your math teacher has a serious coffee habit. Every morning she goes to her favourite coffee house and buys a latte for \$3.75. Here is a table to represent how much money she spends in a week . Determine the total for days 3, 4 and 5 and create a ratio of money to days.

Money	\$3.75	\$7.50			
Days	1	2	3	4	5

- 1) How much does your teacher spend on lattes on day 3 of the week ?

- 2) Why does the fraction of money to days for both days : day 1 and day 2 the same ?
- 3) How much money do you expect your teacher to spend in a 30- day month on her lattes ?
Assume she buys a coffee every day , including weekends.
- 4) Your teacher calculates that they spent \$78.75 on their lattes after 21 days. How did they figure this out ?

Q2) Max is painting his house. He needs to cover 3,200 square feet of wall space. Based on the table below,

gallons	1	2	3	4	5
square feet	400	800	1,200	1,600	2,000

- 1) How many gallons of paint does Max need to buy ?

2) How can you tell that the table represents proportional relationship ?

3) What is rate of change per gallon ?

_____sq ft per gallon

4) His friend asked him for 14 gallons of paint ,
how much square feet he needs to paint ?

5) Max paints 1600 sq ft with 4 gallons and Liam paints 11200 sq ft with 26 gallons of paint.
Does their represent proportional relationship ?

Q3) Do the following tables represent proportional relationship ?

1)

x	1	2	3	4
y	2.5	5	10	15

2)

x	2	3	5	10
y	0.5	0.75	1.25	2.5

3)

x	2	4	6	8	10
y	8	14	24	26	32

4)

x	3	5	7	10
y	1.5	2.5	3.5	4.5

5)

x	2	4	6	8	10
y	6	12	18	24	30

Q4) Use the table to determine if the table represents a proportional relationship between the number of boxes sold and the amount of profit earned.

Boxes	Profit (dollars)
2	10
5	25
8	40

2) Find the amount of profit earned per box ? \$_____

Q5) Use the table to determine if the table represents a proportional relationship between the number of hours it has snowed and the total snow accumulation in inches.

Time (hours)	Snow Accumulation (inches)
3	2.1
6	4.2
8	5.6

2) Find the amount of snow accumulation per hour
_____ inches

3) How many hours will it take the snow to accumulate 13.3 inches ?

_____ hrs

Q6) Use the table to determine if the table represents a proportional relationship between the amount of sliced almonds used and the number of batches of cookies made?

Sliced Almonds (packs)	Batches of Cookies
4	3
6	4.5
12	9

2) Find the number of batches of cookies made using one pack of sliced almonds for each row in the table.

Q7) Calculate the amount of milk used per cup of oats

Amount of Oats (cups)	Amount of Milk (cups)
$\frac{1}{4}$	$\frac{3}{8}$
$\frac{2}{5}$	$\frac{3}{5}$
10	15
