

Name : _____

Constant of Proportionality - Table

The values of x and y are proportional. Determine the constant of proportionality (k) and find the missing values.

1)

x	9	4	5	2
y	36	16	20	8

$$\frac{36}{9} = \frac{16}{4} = 4$$

2)

x	12	6	15	9
y	4	2	5	3

$$\frac{2}{6} = \frac{1}{3}$$

3)

x	12	18	30	48
y	2	3	5	8

$$\frac{8}{48} = \frac{1}{6}$$

4)

x	5	8	4	12
y	25	40	20	60

$$\frac{20}{4} = 5$$

5)

x	7	11	4	3
y	56	88	32	24

$$\frac{32}{4} = \frac{8}{1}$$

6)

x		14		
y	21	6	15	3

7)

x		5		30
y	14		6	12

8)

x	3	4	9	7
y	18	24	54	42

$$\frac{18}{3} = \frac{6}{1}$$

Proportional Relationships in Tables

portrait
hr

1. Jacob is an artist. He paints portraits. The table below shows the number of portraits in hours. Do the numbers in the table represent a proportional relationship? What is the number of portraits he paints per hour? Write a linear equation.

$k=5$

$\frac{5}{1} = \frac{10}{2} = \frac{5}{1}$ $\frac{15}{3} = \frac{5}{1}$ $\frac{40}{8} = \frac{5}{1}$

PROPORTIONAL

$y = 5x$

Time (in hours)	Number of Portraits
1	5
2	10
3	15
8	40

2. Tyler sold water bottles over four days. Are the quantities proportional? How many did he sell per day? Write an equation showing the constant of proportionality.

PROPORTIONAL

$k=4$

$y = 4x$

Days	1	2	3	4
Number of Bottle	4	8	12	16

3. This table shows the amount earned by Ethan for selling cups of ice cream. Do the numbers in the table represent a proportional relationship? If so, write a linear equation showing that relationship.

$\frac{12}{3} = \frac{4}{1}$ $\frac{20}{5} = \frac{4}{1}$
 $\frac{28}{7} = \frac{4}{1}$ $\frac{36}{9} = \frac{4}{1}$

PROPORTIONAL

$y = 4x$

Cups sold (cup)	Earnings (\$)
3	12
5	20
7	28
9	36

4. Kimberly wrote notes during an examination. The table shows the number of pages written in relation to the time it took to make the notes (in hours). Does the table represent a proportional relationship? If so, what is the per hour rate that she wrote notes?

$\frac{16}{8} = \frac{2}{1}$ $\frac{18}{9} = \frac{2}{1}$
 $\frac{20}{10} = \frac{2}{1}$ ~~$\frac{23}{11} = \frac{2}{1}$~~

Time (in hours)	Notes
8	16
9	18
10	20
11	23

NON-PROPORTIONAL

5. A ferry has to transport bikes on an island. The table below shows the number of bikes transported and the number of trips the ferry had to make. Do the numbers in the table represent a proportional relationship? If so, what is the constant of proportionality and write an equation reflecting that proportionality.

$$\frac{10}{1} \quad \frac{12}{2} = \frac{6}{1}$$

Number of Trips	Number of Bike
1	10
2	12
3	14
4	16

NON-PROPORTIONAL

6. Tate went to the market and bought some comics. The table shows the price for different numbers of comics. Do the numbers in the table show a constant rate of change? If so, what is that rate of change?

NONPROPORTIONAL

Number of Comics	Price (Dollars)
2	6
4	12
* 6	16 *
8	24

7. Brooklyn made cookies over consecutive hours. The table shows the number of cookies she made per hours. Do the numbers in the table represent a proportional relationship? If so, what is the unit rate per hour? Write an equation showing this relationship? How many cookies would Brooklyn bake in 8 hours?

PROPORTIONAL

$$k = 15$$

$$y = 15x$$

Number of Hours	1	2	3	4	5
Number of Cookies	15	30	45	60	75

$$x = 8$$

$$y = 15 \cdot 8 = 120 \text{ cookies}$$

8. Brenda goes on a bike ride. The table below shows the number of miles Brenda rode in minutes. Does the table show a proportional relationship? If so, write an equation showing this relationship. If Brenda rode 11 miles, how long would it take her?

PROPORTIONAL

$$y = 4x$$

$$y = 4 \cdot 11 = 44 \text{ minutes}$$

Distance (miles)	Time (minutes)
3	12
4	16
5	20
6	24