

Name \_\_\_\_\_

Date \_\_\_\_\_

Mr. Tallman

**Do Now**

1) James can flip a water bottle 60 times in 90 seconds. At this rate, how many water bottles can he flip in 120 seconds?

2) Determine if the following ratios are equivalent:  $\frac{18}{1}$        $\frac{54}{3}$        $\frac{108}{6}$        $\frac{135}{7.5}$

3) A **proportion** is \_\_\_\_\_

**Lesson #25 - Identifying Proportional Relationships Using Constant of Proportionality (Unit Rate)**

A **proportional relationship** is when \_\_\_\_\_

Example 1) Callie went trick-or-treating. Based on the table below, determine if the relationship between the amount of candy Callie collects and the number of blocks she goes to is proportional. Justify.

<b>Number of Blocks</b>	1	2	3	4	5
<b>Amount of Candy</b>	16	32	48	64	80

Example 2) Craig earns extra money working at a pumpkin patch. He earns \$37 for working 4 hours, \$64.75 for 7 hours and \$76 for 8 hours. Is this a proportional relationship? Explain.

The constant ratio (unit rate) is called the \_\_\_\_\_ of \_\_\_\_\_.

This is represented by the variable \_\_\_\_\_.

**Look back at example #1.**

What is the constant of proportionality (C.O.P.)?  $k =$  \_\_\_\_\_

**Try it!**

3) Jack is having a pumpkin carving contest at his school. He needs to buy pumpkins for the contest. Two pounds of pumpkins cost \$19, and 8 pounds cost \$76. Determine if the relationship between the number of pounds of pumpkins and the cost is a proportional relationship. **Justify.** *If proportional, what is the constant of proportionality?*



<b>Number of Pounds</b>	2	3	8
<b>Cost (\$)</b>	19	28.50	76

4) The table below shows the distance farmer John drove on one week of her during the fall. Is the relationship between the distance and the time a proportional relationship? **Explain.** *If proportional, what is the constant of proportionality?*

<b>Time (hours)</b>	1	2	3	4	5
<b>Distance (meters)</b>	65	120	195	220	300



5) Susie is having a Halloween party and wants her guests to go bobbing for apples. Two pounds of apples cost \$4.50, 5 pounds of apples cost \$11.25, and 10 pounds of apples cost \$22.50. Is the relationship between the number of pounds of apples and the cost a proportional relationship? Explain. If proportional, what is the constant of proportionality?

Proportional or Not Proportional?

k = \_\_\_\_\_

6) You have been hired by your neighbors to babysit their children on Friday night. You are paid \$8 per hour. Complete the table relating your pay to the number of hours you worked.

<b>Hours Worked</b>	1	2	3	4	4 ½	5	6	6.5
<b>Pay</b>								

Based on the table above, is pay proportional to hours worked? How do you know?

7) Randy is planning to drive from New Jersey to Florida. Randy recorded the distance traveled and the total number of gallons used every time he stopped for gas.

Assume miles driven is proportional to Gallons Consumed in order to complete the table.

Gallons Consumed	2	4		8	10	12
Miles Driven	54		189	216		

