Unit Rate as the Constant of Proportionality

If a proportion is described by the set of ordered pairs that satisfies the equation _____, where _____ is called the _____ _____ _____.

Constant of Proportionality = _____ = _____

Example

Example: You Need WHAT???

Brandon came home from school and informed his mother that he had volunteered to make cookies for his entire grade level. He needed 3 cookies for each of the 96 students in 7th grade. Unfortunately, he needed the cookies for an event at school on the very next day! Brandon and his mother determined that they can fit 36 cookies on two cookie sheets. *Encourage students to make a chart to organize the data from the problem.*

a. Is the number of cookies proportional to the number of sheets used in baking? Create a table that shows data for the number of sheets needed for the total number of cookies needed.

Table:

# of cookie sheets	*# of cookies baked*	
2	*36*	$\frac{36}{2} = 18$
4		
10		
16		

The unit rate is _____

The constant of proportionality is _____

Meaning of Constant of Proportionality in this problem: _____

b. It took 2 hours to bake 8 sheets of cookies. If Brandon and his mother begin baking at 4:00 pm, when will they finish baking the cookies?

Lesson Summary

If a proportional relationship is described by the set of ordered pairs that satisfies the equation $y = kx$, where k is a positive constant, then k is called the *constant of proportionality*.