

Ratio Tables

Lesson 6-2

What are equivalent ratios?

- **Equivalent ratios** express the same relationship between two quantities.
- The ratios $\frac{1}{3}$, $\frac{2}{6}$ and $\frac{3}{9}$ are equivalent ratios since each simplifies to a ratio of $\frac{1}{3}$

What is a ratio table?

- A **ratio table** organizes data into columns that are filled with pairs of numbers that have the same ratio, or are equivalent

Cups of Oats	1				5
Oatmeal Cookies	24				■

- **Example:** You need 1 cup of rolled oats to make 24 oatmeal cookies. Use the ratio table to find how many oatmeal cookies you can make with 5 cups of rolled oats.

Find a pattern and extend it.

		$+1$	$+1$	$+1$	$+1$
		\frown	\frown	\frown	\frown
Cups of Oats	1	2	3	4	5
Oatmeal Cookies	24	48	72	96	120
		\smile	\smile	\smile	\smile
		$+24$	$+24$	$+24$	$+24$

So, 120 oatmeal cookies can be made with 5 cups of rolled oats.

What is scaling?

- Multiplying or dividing two related quantities by the same number is called **scaling**.
- You may sometimes need to *scale back* and then *scale forward* or vice versa to find an equivalent ratio.

Example: A department store has socks on sale for 4 pairs for \$10. Use the ratio table to find the cost of 6 pairs of socks.

Pairs of Socks		4	6
Cost in Dollars		10	■

- There is no whole number by which you can multiply 4 to get 6.
- Instead, scale back to 2 and then forward to 6.

		$\begin{array}{c} \times 3 \\ \hline \div 2 \end{array}$	
Pairs of Socks	2	4	6
Cost in Dollars	5	10	15
		$\begin{array}{c} \div 2 \\ \hline \times 3 \end{array}$	

- So, the cost of 6 pairs of socks would be \$15.

Exercises

- **1. EXERCISE** Keewan bikes 6 miles in 30 minutes. At this rate, how long would it take him to bike 18 miles?

Distance Biked (mi)	6		18
Time (min)	30		■

- **2. HOBBIES** Christine is making fleece blankets. 6 yards of fleece will make 2 blankets. How many blankets can she make with 9 yards of fleece?

Yards of Fleece		6	9
Number of Blankets		2	■