SKILL 2: Equal Ratios

The picture can be used to show **equal ratios** that compare squares to circles. Just as with fractions, ratios can be written in simplest form. $\frac{2}{3}$ is in simplest form.

You can find ratios equal to a given ratio by multiplying or dividing both quantities of a ratio by the same nonzero number.

$$\frac{\text{squares}}{\text{circles}} = \frac{8}{12} = \frac{6}{9} = \frac{4}{6} = \frac{2}{3}$$

Example 1

Use multiplication to find four ratios equal to the ratio 1 inch to 5 miles.

		1×2	1×3	1×4	1×5
Inches	1	2	3	4	5
Miles	5	10	15	20	25
		5×2	5×3	5×4	5×5

Example 2

Use multiplication or division to find five ratios equal to the ratio 36 students to 24 adults.

		36×2	$36 \div 2$	$36 \div 12$	36×3	$36 \div 6$
Students	36	72	18	3	108	6
Adults	24	48	12	2	72	4
		24×2	$24 \div 2$	$24 \div 12$	24×3	$24 \div 6$

Guided Practice

1. Nine pounds of trail mix costs $15. Find two equal ratios.

$$\frac{9}{15} = \frac{9 \times 2}{15 \times 2} = \frac{\Box}{\Box} \qquad\qquad \frac{9}{15} = \frac{9 \div 3}{15 \div 3} = \frac{\Box}{\Box}$$

For each ratio given, find three equal ratios.

2. $\dfrac{2 \text{ miles}}{8 \text{ minutes}} = $ _____

3. $\dfrac{1 \text{ student}}{3 \text{ students}} = $ _____

4. $\dfrac{5 \text{ pencils}}{1.25 \text{ dollars}} = $ _____

5. $\dfrac{12 \text{ hits}}{50 \text{ at bats}} = $ _____

SKILL 2: Practice

Complete each table to show equal ratios.

1.

Tablespoons cocoa	3	6	9				21
Ounces milk	8			32	40	48	

2.

Stickers	50	25				1
Dollars	10.00		2.00	1.00	0.40	

Find three ratios equal to the given ratio.

3. $\dfrac{3 \text{ picture postcards}}{75 \text{ cents}}$ = _____

4. $\dfrac{3 \text{ wins}}{6 \text{ games}}$ = _____

5. $\dfrac{55 \text{ miles}}{1 \text{ hour}}$ = _____

6. $\dfrac{28 \text{ days}}{4 \text{ weeks}}$ = _____

7. $\dfrac{12 \text{ inches}}{1 \text{ foot}}$ = _____

8. $\dfrac{100 \text{ senators}}{50 \text{ states}}$ = _____

Alaska has about 110 people per 100 square miles. Answer each question.

9. Is this more or less than 1 person per square mile? _____

10. Write two ratios equal to the ratio $\dfrac{110}{100}$. _____

TEST PREP

11. Which ratio is **not** equal to $\dfrac{10}{15}$?

Skill 2

A $\dfrac{5}{2}$ C $\dfrac{20}{30}$

B $\dfrac{2}{3}$ D $\dfrac{50}{75}$

12. A team lost 3 games and won 5 games. Which ratio compares wins to losses?

Skill 1

F 3:5   H $\dfrac{5}{3}$

G $\dfrac{3}{8}$ J $\dfrac{5}{8}$