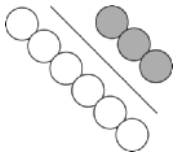
Name: _____ Date: _____

Get Ready

Using Two-Term Ratios

A **part-to-part ratio** compares 1 part of a group to other parts of the same group.



- The ratio of white circles to grey circles is 6:3 or 6 to 3.
- The ratio in lowest terms is 2:1 or 2 to 1.

A **part-to-whole ratio** compares 1 part of a group to the whole group.

- The ratio of white circles to the total number of circles is 6:9, 6 to 9, or $\frac{6}{9}$.
- The ratio in lowest terms is 2:3 or 2 to 3.
- You can write a part-to-whole ratio as a fraction, a decimal, and a percent.
- White circles to total number of circles = $\frac{6}{9}$ or $\frac{2}{3}$, $0.\overline{6}$, and $66.\overline{6}\%$.

1. Complete the table. Write the ratio of grey circles to the total number of circles.

	Ratio Notation	Equivalent Fraction in Lowest Terms	Decimal	Percent
a) ○○○○ ● ●	2:6	÷ 2 $\frac{\square}{\square} = \frac{\square}{\square}$ ÷ _____	2 ÷ 6 = _____	decimal × 100 = _____ × 100 = _____
b) ○○○○○○ ● ● ● ●		÷ _____ $\frac{\square}{\square} = \frac{\square}{\square}$ ÷ _____		

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2. Find the missing value to make an equivalent fraction.

a) $\frac{1}{2} = \frac{5}{\square}$ (× _____ above, × _____ below)

b) $\frac{\square}{4} = \frac{3}{12}$ (÷ _____ above, ÷ _____ below)

Using Proportional Reasoning

proportion

- a relationship that shows 2 ratios are equal
- can be written as 2 equivalent fractions
- examples: $\frac{1}{2} = \frac{7}{14}$ (× 7 above, × 7 below); $\frac{5\text{ cm}}{25\text{ cm}} = \frac{1\text{ cm}}{5\text{ cm}}$ (÷ 5 above, ÷ 5 below)

FOLDABLES™ Study Tool

To compare ratios, the units must be the same.

3. Set up a **proportion** for each situation.

a) On a diagram, 2 cm represents 200 cm.
The length of a basketball court is 2800 cm.
This length is 28 cm on the diagram.

$\frac{2}{200} = \frac{\square}{\square}$

ratio = $\frac{\text{length on diagram}}{\text{actual length}}$

b) In a photograph, 1 cm represents 30 cm.
In the photo, Daniel is 6 cm tall.
His actual height is 180 cm.

$\frac{\square}{\square} = \frac{\square}{\square}$

4. A 12-m telephone pole casts a shadow 4 m long.
What is the height of a boy who casts a shadow 0.4 m long?

$\frac{4}{\square} = \frac{\square}{\square}$ (÷ 10 above, ÷ 10 below)

The height of the boy is _____.