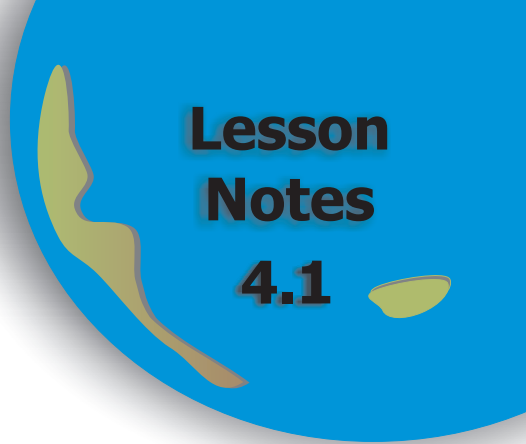


NAME \_\_\_\_\_

**Module 4**    **Fractions, Decimals, Percents, and Factors**  
**Lesson 1**    **Concepts of Fractions, Ratios, and Percents**



**Lesson Notes**  
**4.1**

**Lesson Objectives**

- Use models and visual representations to develop the concepts of the following *fractions*: parts of unit wholes, parts of a collection, locations on number lines, locations on rulers (*benchmark fractions*), division of whole numbers.
- Use models and visual representations to develop the concepts of the following *ratios*: part-to-part (two boys to three girls) and part-to-whole (two boys to five people).
- Use models and visual representations to develop the concepts of *percents*: part to -100.

**Subtopic 1**    **Fractions**

- A **fraction** is a number that is the result of a division.
- A fraction is a **number** that names equal parts of a whole or equal parts of a group.
- In the fraction  $\frac{3}{4}$ , the **denominator** 4 (bottom number) tells the total number of equal parts in the whole.
- In the fraction  $\frac{3}{4}$ , the **numerator** 3 (top number) tells how many equal parts are named.
- In a **proper** fraction, the numerator is less than the denominator.
- A proper fraction is less than **one**.
- In an **improper** fraction, the numerator is greater than or equal to the denominator.
- An improper fraction is greater than or equal to **one**.
- $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{3}{4}$  are commonly used **benchmark fractions**.

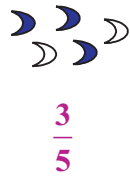


Name the fraction shown by the shaded region.

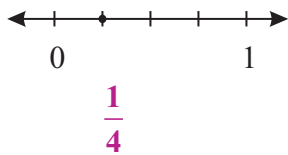


$$\frac{2}{3}$$

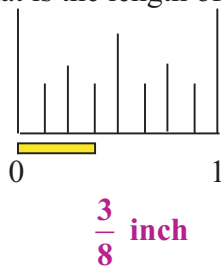
- 2 Name the fraction of moons that is blue.



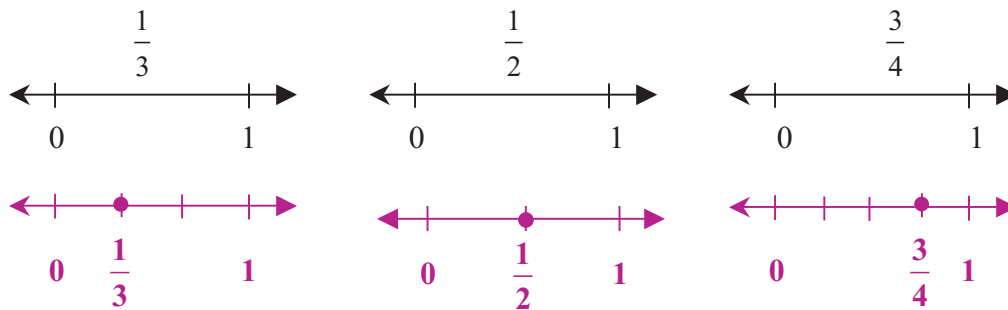
- 3 What fraction does the point on the number line represent?



- 4 What is the length of the yellow rectangle?



- 5 Locate each benchmark fraction on the number line.



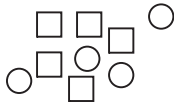
### Subtopic 2 Ratios: Part-to-Whole

- A **ratio** is a comparison of two quantities.
- Ratios may be part-to-**whole** or part-to-**part**.

NAME \_\_\_\_\_

**Module 4**    **Fractions, Decimals, Percents, and Factors**  
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**6** What is the ratio of circles to all shapes?



4 to 9    4:9     $\frac{4}{9}$

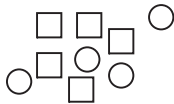
**7** What is the ratio of girls to people?



3 to 5    3:5     $\frac{3}{5}$

**Subtopic 3**    **Ratios: Part-to-Part**

**8** What is the ratio of circles to squares?



4 to 5    4:5     $\frac{4}{5}$

**9** What is the ratio of boys to girls?

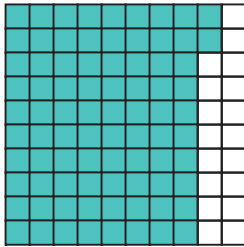


2 to 3    2:3     $\frac{2}{3}$

**Subtopic 4****Percent**

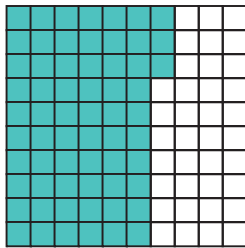
- **Percent** means “for every one hundred.”
- **%** is the percent sign.
- 3% means **three** out of **100**.

**10** What percent is shaded?



**82%**

**11** What fraction is shaded?  
What is the ratio of shaded squares to total squares?  
What percent is shaded?



$\frac{63}{100}$     **63:100**    **63%**