



## Unit 7

Name: \_\_\_\_\_

### Lesson 7.1

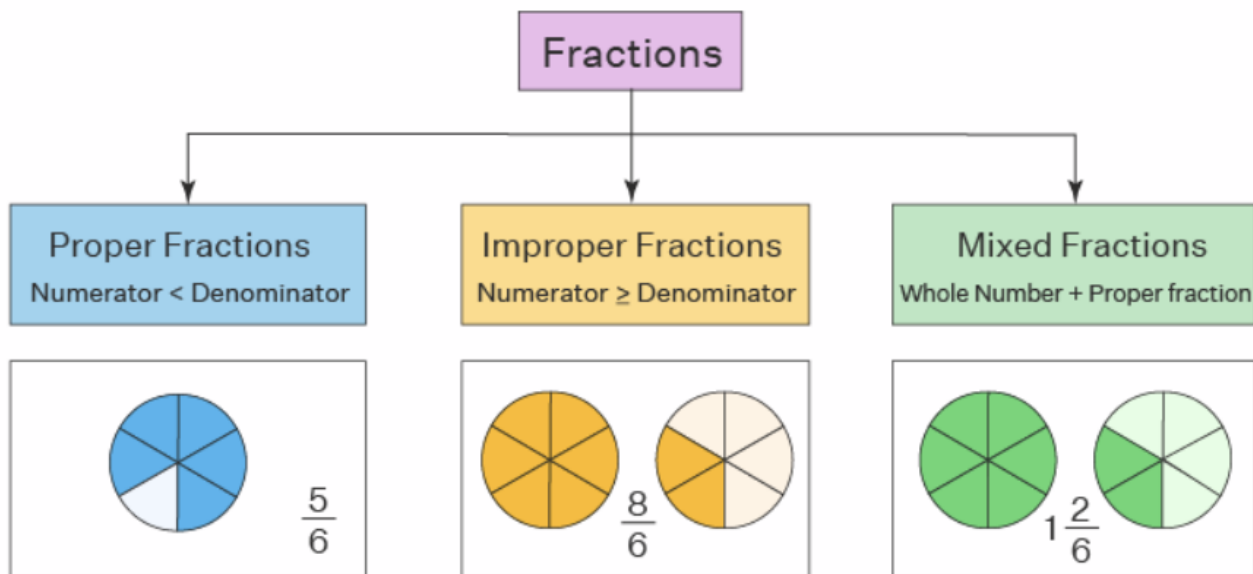
Grade 6A

Date: \_\_\_\_\_

### Ordering fractions

Study sheet

**Objective:** Compare and order fractions.



### What are the Three Types of Fractions?

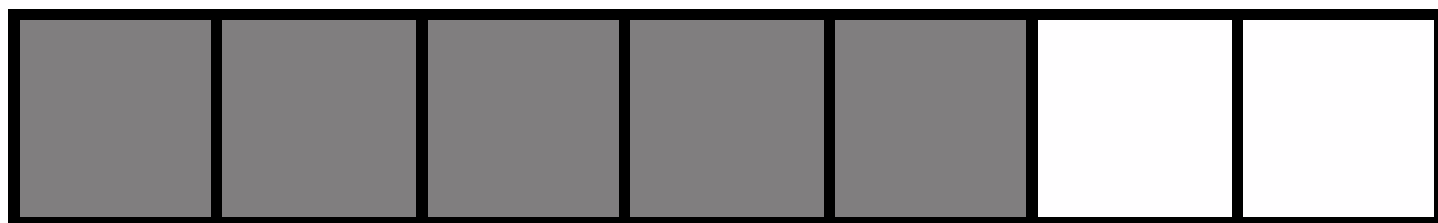
The three types of fractions, based on the numerator and the denominator are proper, improper, and mixed fractions. For example,  $\frac{2}{5}$ ,  $\frac{3}{4}$  are termed as [proper fractions](#) because here the numerator is smaller than the denominator;  $\frac{5}{2}$ ,  $\frac{8}{3}$  are termed as improper fractions because the numerator is greater than the denominator; and  $1\frac{2}{6}$  and  $3\frac{1}{4}$  are termed as mixed fractions because they consist of a whole number and a proper fraction.

## What are Two Parts of a Fraction?

A fraction has two parts, the numerator and the denominator.

- Numerator: The numerator represents the number that is placed on the top of the fraction. It represents the part that is considered out of the whole. For example, in  $\frac{5}{6}$ , 5 is the numerator.
- Denominator: The denominator indicates the part that is placed on the bottom of the fraction. It represents the total number of parts. For example, in  $\frac{5}{6}$ , 6 is the denominator.

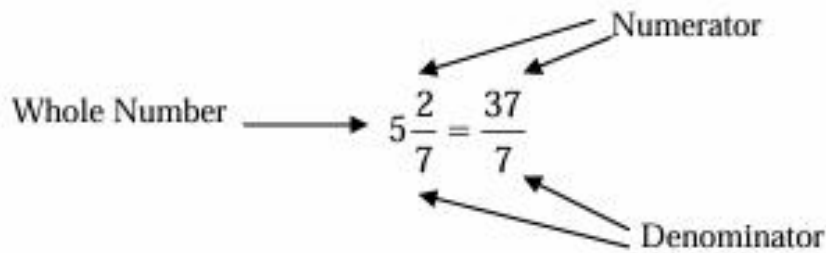
### General Fraction Information



- The fraction that represents the above picture is  $\frac{5}{7}$  and is read "five sevenths". That means that five of the parts are shaded, and it would take seven parts of that size to make a whole.
- One whole can be "cut up" into equal size parts; therefore,  $1 = \frac{13}{13} = \frac{9}{9} = \frac{123}{123}$ , etc.
- A whole number can be written as a fraction with a denominator of 1; for example,  $2 = \frac{2}{1}$ . Zero can be written as a fraction using zero as the numerator and any whole number as the denominator, for example,  $\frac{0}{23}$ .
- Any whole number may be written as a mixed number by using a zero fraction. For example,  $3 = 3\frac{0}{42}$ .

## Mixed Numbers

To convert a mixed number,  $5\frac{2}{7}$ , to an improper fraction,  $\frac{37}{7}$ :



$$5\frac{2}{7}$$

Work in a clockwise direction, beginning with the denominator, (7).

$$5 \times 7 = 35$$

Multiply the denominator (7) by the whole number, (5)

$$35 + 2 = 37$$

Add that product, (35), to the numerator (2) of the fraction.

$$\frac{(5 \times 7) + 2}{7} = \frac{37}{7}$$

The denominator remains the same for the mixed number and the improper fraction.

### Convert to Improper Fractions:

1)  $4\frac{2}{5} =$

6)  $14\frac{3}{4} =$

11)  $9 =$   
Hint: See #10

2)  $5\frac{3}{8} =$

7)  $6\frac{3}{5} =$

12)  $7\frac{3}{4} =$

3)  $2\frac{4}{9} =$

8)  $9\frac{1}{10} =$

13)  $12\frac{5}{9} =$

4)  $5\frac{6}{7} =$

9)  $16\frac{1}{2} =$

14)  $10\frac{3}{8} =$

5)  $8\frac{1}{8} =$

10)  $8\frac{0}{1} =$

15)  $28\frac{2}{3} =$

## Finding Equivalent Fractions with Larger Denominators

This process is sometimes called “**Boosting**”

$$\text{Example: } \frac{5}{8} = \frac{?}{56}$$

$$56 \div 8 = 7$$

Divide the larger denominator by the smaller to find the factor used to multiply the denominator. (Note: The product of the smaller denominator and the factor is the larger denominator)

$$\frac{5}{8} \times \frac{7}{7} = \frac{5 \times 7}{8 \times 7}$$

Use this factor to multiply the numerator.

$$\frac{5}{8} = \frac{35}{56}$$

The result is two equivalent fractions.

*Note: Equal denominators are required for addition and subtraction of fractions.*

**Find the equivalent fractions as indicated:**

1)  $\frac{2}{5} = \frac{\quad}{15}$

6)  $\frac{3}{4} = \frac{\quad}{44}$

11)  $\frac{8}{9} = \frac{\quad}{81}$

2)  $\frac{3}{8} = \frac{\quad}{32}$

7)  $\frac{3}{5} = \frac{\quad}{45}$

12)  $\frac{3}{4} = \frac{\quad}{68}$

3)  $\frac{4}{9} = \frac{\quad}{54}$

8)  $\frac{1}{10} = \frac{\quad}{60}$

13)  $\frac{5}{9} = \frac{\quad}{108}$

4)  $\frac{6}{7} = \frac{\quad}{49}$

9)  $\frac{1}{2} = \frac{\quad}{28}$

14)  $\frac{3}{8} = \frac{\quad}{112}$

5)  $\frac{1}{8} = \frac{\quad}{48}$

10)  $\frac{10}{100} = \frac{\quad}{700}$

15)  $\frac{2}{3} = \frac{\quad}{462}$

## Improper Fractions

*Example:* Convert  $\frac{14}{3}$  to an Improper Fraction

$$14 \div 3 = 4$$

Remainder 2

Remember: Dividend  $\div$  Divisor = Quotient

Divide the numerator (14) by the denominator (3).

$$\frac{14}{3} = 4\frac{2}{3}$$

Write the mixed number in the form:  $\text{Quotient} \frac{\text{remainder}}{\text{divisor}}$

*Note: Check you answer to see if you can reduce the fraction.*

**Convert these improper fractions to mixed numbers. *Be sure to reduce when it's possible.***

#11, 12 Hint: how many wholes will there be?

1)  $\frac{8}{5} =$

6)  $\frac{114}{5} =$

11)  $15\frac{280}{6} =$

2)  $\frac{18}{7} =$

7)  $\frac{128}{3} =$

12)  $8\frac{315}{3} =$

3)  $\frac{37}{9} =$

8)  $\frac{401}{3} =$

13)  $\frac{54}{8} =$

4)  $\frac{127}{5} =$

9)  $\frac{36}{6} =$

14)  $\frac{26}{8} =$

5)  $\frac{32}{9} =$

10)  $\frac{235}{2} =$

15)  $\frac{258}{9} =$