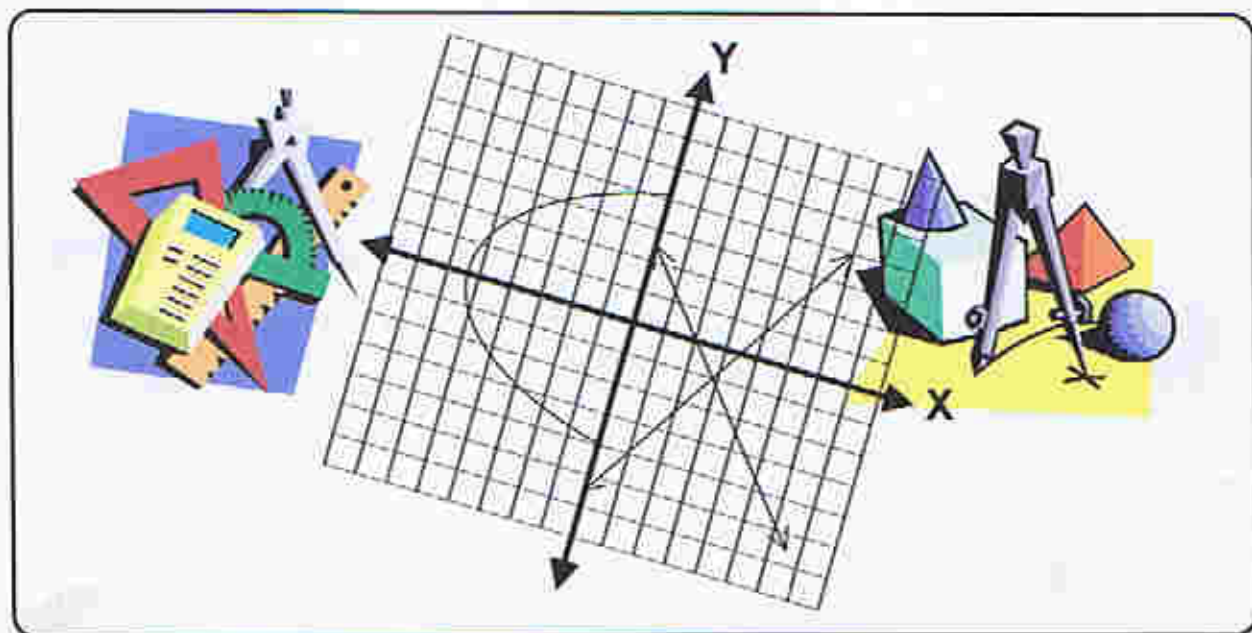


Project EASE

(Effective and Alternative Secondary Education)

MATHEMATICS I



MODULE 5

Be Part of It



BUREAU OF SECONDARY EDUCATION

Department of Education
DepEd Complex, Meralco Avenue
Pasig City



Module 5 *Be Part of It*



What this module is all about

Many quantities and objects in the world are expressed in terms of fractions and decimals. For instance, most recipes list quantities in fractions, whereas money and the speed of swimmers and sprinters are often given in decimals. On the other hand, the amount of substance a particular medicine contains is expressed in decimal.

This module deals with fractions and decimals. You will learn how to change fractions to decimals and vice versa and how to compare and order fractions. Finally, you will also find out how to perform operations on fractions.

This module is divided into four lessons, namely:

- Lesson 1** Converting Fractions to Decimals and Vice-versa
- Lesson 2** Comparing and Ordering Fractions
- Lesson 3** Addition and Subtraction of Fractions
- Lesson 4** Multiplication and Division of Fractions



What you are expected to learn

After going through this module, you should be able to

- define rational numbers;
- identify some forms of rational numbers;
- express decimal as fraction and vice-versa;
- order fractions;
- simplify fractions; and
- perform operations on fractions

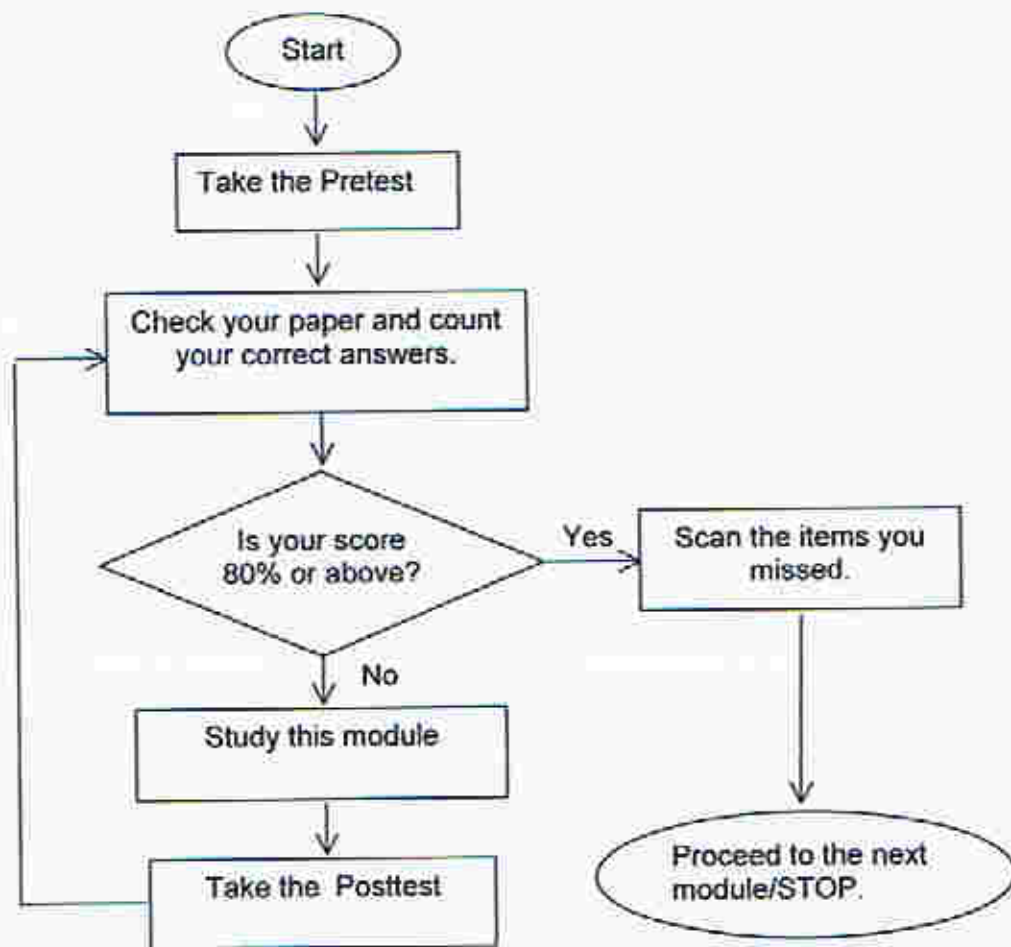


How to learn from this module

This is your guide for the proper use of the module:

1. Read the items in the module carefully.
2. Follow the directions as you read the materials.
3. Answer all the questions that you encounter. As you go through the module, you will find help to answer these questions. Sometimes, the answers are found at the end of the module for immediate feedback.
4. To be successful in undertaking this module, you must be patient and industrious in doing the suggested tasks.
5. Take your time to study and learn. **Happy learning!**

The following flowchart serves as your quick guide in using this module.





What to do before (Pretest)

Directions: Choose the letter that corresponds to the correct answer.

1. Which of the following is equivalent to $\frac{1}{2}$?

a. 5.0

b. 0.05

c. 0.5

d. 0.005

2. What is 0.4333... in fraction form?

a. $\frac{43}{10}$

b. $\frac{40}{13}$

c. $\frac{13}{30}$

d. $\frac{4}{3}$

3. Which of the following fractions will give a repeating non-terminating decimal?

a. $\frac{6}{25}$

b. $\frac{3}{5}$

c. $\frac{4}{5}$

d. $\frac{7}{11}$

4. Which of the following is equivalent to 0.75?

a. $\frac{3}{4}$

b. $\frac{1}{4}$

c. $\frac{1}{2}$

d. $\frac{2}{3}$

5. Which of the following sets of fractions are similar?

a. $\frac{1}{2}, \frac{1}{3}, \frac{2}{4}$

b. $\frac{2}{3}, \frac{1}{3}, \frac{3}{3}$

c. $\frac{6}{8}, \frac{2}{4}, \frac{5}{4}$

d. $\frac{1}{2}, \frac{3}{4}, \frac{5}{3}$

6. Which of the following is the largest?

a. $-\frac{3}{6}$

c. $\frac{5}{6}$

b. $\frac{5}{9}$

d. $-\frac{1}{2}$

7. What is the sum of $\frac{3}{7}$ and $\frac{2}{7}$?

a. $\frac{5}{14}$

c. $\frac{2}{7}$

b. $\frac{6}{7}$

d. $\frac{5}{7}$

8. What is the difference when $\frac{1}{4}$ is subtracted from $\frac{5}{6}$?

a. $\frac{7}{12}$

c. $\frac{4}{2}$

b. $\frac{6}{10}$

d. $\frac{5}{10}$

9. What is the product when $\frac{1}{5}$ is multiplied by $\frac{3}{7}$?

a. $\frac{4}{35}$

c. $\frac{3}{35}$

b. $\frac{3}{12}$

d. $\frac{4}{12}$

10. What is $\frac{1}{5}$ in decimal?

a. 0.20

c. 0.002

b. 0.05

d. 0.15



Answer Key on page 27



What you will do

Read carefully the lessons that follow, answer the questions asked, and then do the activities to enhance your understanding of fractions.

Lesson 1 Converting Fractions to Decimals and Vice-versa



Exploration

Consider the following equations.

$$15 \div 3 = 5$$

$$28 \div 4 = 7$$

$$45 \div 5 = 9$$

$$10 \div 3 = \frac{10}{3}$$

$$7 \div 9 = \frac{7}{9}$$

You must have noticed that all numbers can be expressed as quotient of two integers. These numbers are called *rational numbers*.



Did you know?

A *rational number* is a number that can be expressed as a quotient of two integers.

Let us consider the fraction $\frac{7}{8}$. Let us divide 7 by 8 by annexing three zeros after the decimal point that follows 7.

$$\begin{array}{r} 0.875 \\ 8 \overline{)7.000} \\ \underline{-6} \\ 6 \\ \underline{-5} \\ 4 \\ \underline{-4} \\ 0 \end{array}$$

Thus, $\frac{7}{8}$ could be represented by 0.875. The decimal 0.875 is a terminating decimal. Since 0.875 is equal to $\frac{7}{8}$, then it is a rational number because it can be expressed as a quotient of two integers.

Let us consider the fraction $\frac{13}{30}$. Let us divide 13 by 30 by annexing three zeros after the decimal point that immediately follows 13.

$$\begin{array}{r} 0.433 \\ 30 \overline{)13.000} \\ \underline{-12} \\ 100 \\ \underline{-90} \\ 100 \\ \underline{-90} \\ 10 \end{array}$$

What do you notice? Do you think the division process will terminate?

The decimal 0.433... is an example of a repeating non-terminating decimal. These types of decimals are also rational numbers because they can be expressed as a ratio of two integers. Notice that the digit 3 keeps on repeating and it does not terminate no matter how many zeros are annexed.

From the above illustration, we can say that terminating decimals and repeating non-terminating decimals are rational numbers and as such they can be expressed as fractions. Moreover, we have learned also from the illustration

above that fractions can be converted to decimal form by dividing the numerator by the denominator.

Suppose you are asked to convert a decimal to fraction form. How will you do it?



Exploration

Study the examples given below.

Example 1

Convert 0.45 to fraction.

$$0.45 = (0.45) \left(\frac{100}{100} \right) = \frac{45}{100} = \frac{9}{20}$$

Why do you think 0.45 is multiplied by $\frac{100}{100}$?

Example 2

Convert 0.375 to fraction.

$$0.375 = (0.375) \left(\frac{1000}{1000} \right) = \frac{375}{1000} = \frac{3}{8}$$

Why do you think 0.375 is multiplied by $\frac{1000}{1000}$?

Suppose you want to convert 0.7 to fraction, what will you use as multiplier?

You will find this out as you go through this module.

Example 3

Convert 0.433... to fraction.

The given decimal is non-terminating; hence we cannot use the method of converting decimal shown in Examples 1 and 2.

Look at the process involved in converting repeating non-terminating decimal.

$$\begin{aligned} \text{Let } n &= 0.4333\dots \\ 10n &= 4.333\dots \\ 100n &= 43.333\dots \end{aligned}$$

Let n be the given number
Multiply both sides of the equation by 10
Multiply the original equation by 100

$$\begin{array}{r} 100n = 43.333\dots \\ -10n = 4.333\dots \\ \hline 90n = 39 \end{array}$$

$$n = \frac{39}{90} = \frac{13}{30}$$

Therefore, $0.4333\dots = \frac{13}{30}$.

Example 4

Convert 0.999... to fraction in lowest term.

$$\begin{aligned} \text{Let } n &= 0.999\dots \\ 100n &= 9.999\dots \end{aligned}$$

$$\begin{array}{r} 100n = 9.999\dots \\ -n = 0.999\dots \\ \hline 99n = 9 \end{array}$$

$$n = \frac{9}{99} = \frac{1}{11}$$

Therefore, $0.999\dots = \frac{1}{11}$.



Did you know?

- Any number that can be written as quotient of two integers is a rational number
- A fraction will result to a terminating decimal if the remainder is zero when the numerator is divided by the denominator after annexing three zeros
- A fraction will result to repeating non-terminating decimal if the last digit of the quotient keeps on repeating no matter how many zeros are annexed.



Self-check 1

- A. Tell whether the following fractions will yield a terminating decimal or repeating non-terminating decimal by converting them to decimals.

1. $\frac{6}{25}$

2. $\frac{3}{5}$

3. $\frac{7}{11}$

4. $\frac{4}{5}$

5. $\frac{5}{11}$

- B. Convert the following decimals to fractions. Reduce your answer to lowest term.

1. 0.75

2. 0.5

3. 0.666...

4. 0.15

5. 0.333...



Answer Key on page 27

Lesson 2 Comparing and Ordering Fractions

What are similar fractions?



Did you know?

Similar fractions are fractions with the same denominator.

Example

$\frac{2}{7}, \frac{5}{7}, \frac{4}{7}$, and $\frac{3}{7}$ are similar fractions.

Suppose you are asked to compare two fractions which are similar:

Look at the examples given below.

Example 1

Which is larger $\frac{7}{8}$ or $\frac{5}{8}$?

$$\frac{7}{8} > \frac{5}{8} \text{ since } 7 > 5$$

Example 2

Which is larger $\frac{4}{5}$ or $\frac{6}{5}$?

$$\frac{4}{5} < \frac{6}{5} \text{ since } 4 < 6$$

Can you formulate the rule in comparing similar fractions?

Rules in Comparing Similar Fractions

To compare similar fractions, just compare their numerators. The fraction with the bigger numerator is larger.

How would you compare dissimilar fractions? If you know little of this, your knowledge will be enhanced in the following section.

Dissimilar fractions are fractions with different denominators.

Example

$\frac{2}{3}, \frac{5}{6}, \frac{1}{2},$ and $\frac{4}{5}$ are dissimilar fractions



Exploration

Consider these examples.

Example 1

Which is greater $\frac{2}{3}$ or $\frac{2}{5}$?

$$\frac{2}{3} > \frac{2}{5} \text{ since } 3 < 5$$

Example 2

Which is larger $\frac{8}{5}$ or $\frac{8}{7}$?

$$\frac{8}{5} > \frac{8}{7} \text{ since } 5 < 7$$

Can you give a conjecture on how to compare dissimilar fractions with equal numerators? _____

Compare your answer with the following rules

**Rule in Comparing Dissimilar Fractions
with Equal Numerators**

To compare dissimilar fractions with equal numerators, the fraction with the smaller denominator is larger.

Let us consider dissimilar fractions with unequal numerators. The following procedure will help you in comparing dissimilar fractions with unequal numerators

**Comparing Dissimilar Fractions
with Unequal Numerators**

- Get the LCD (least common denominator), which is the LCM (least common multiple of the denominators)
- Change all fractions to similar fractions using the LCD as the common denominator.
- Compare the fractions following the rule in comparing similar fractions.

Study these examples.

Example 1

Which is greater $\frac{1}{4}$ or $\frac{2}{3}$?

First, we get the LCD. The LCD is 12.

Next, we change the fractions to similar fractions using the LCD as the common denominator.

$$\frac{1}{4} = \frac{(1)(3)}{(4)(3)} = \frac{3}{12}$$

$$\frac{2}{3} = \frac{(2)(4)}{(3)(4)} = \frac{8}{12}$$

Since $\frac{3}{12} < \frac{8}{12}$, then $\frac{1}{4} < \frac{2}{3}$

Example 2

Which is greater $\frac{15}{8}$ or $\frac{14}{6}$?

The LCD of the given fractions is 24.

We change the fractions to similar fractions using 24 as the common denominator.

$$\frac{15}{8} = \frac{(15)(3)}{(8)(3)} = \frac{45}{24}$$

$$\frac{14}{6} = \frac{(14)(4)}{(6)(4)} = \frac{64}{24}$$

Since $\frac{45}{64} < \frac{64}{24}$, then $\frac{15}{8} < \frac{14}{6}$

Example 3

Arrange the fractions $\frac{2}{3}$, $\frac{5}{3}$, and $\frac{1}{3}$ from smallest to largest.

Since the fractions are similar, the fraction with the smallest numerator has the least value.

Thus, the ascending order should be $\frac{1}{3}$, $\frac{2}{3}$, and $\frac{5}{3}$.

Example 4

Arrange $\frac{9}{10}$, $\frac{5}{12}$, and $\frac{7}{15}$ in increasing order.

Since the fractions are dissimilar, we change them first to similar fractions.

The LCD is 60. Thus,

$$\frac{9}{10} = \frac{(9)(6)}{(10)(6)} = \frac{54}{60}$$

$$\frac{5}{12} = \frac{(5)(5)}{(12)(5)} = \frac{25}{60}$$

$$\frac{7}{15} = \frac{(7)(4)}{(15)(4)} = \frac{28}{60}$$

Using the rule in ordering similar fractions, $\frac{25}{60} < \frac{28}{60} < \frac{54}{60}$.

Thus, $\frac{5}{12} < \frac{7}{15} < \frac{9}{10}$.



Did you know?

- If fractions have the same denominator, the fraction with the bigger numerator is larger
- The principle of comparing dissimilar fractions is to change the given fractions to similar fractions



Self-check 2

A. Tell which fraction is larger between the two.

1. $\frac{2}{3}$ and $\frac{5}{6}$

4. $\frac{3}{4}$ and $\frac{2}{3}$

2. $\frac{5}{4}$ and $\frac{4}{3}$

5. $-\frac{5}{4}$ and $-\frac{4}{3}$

3. $-\frac{2}{3}$ and $-\frac{5}{6}$

B. Arrange each set of fractions from smallest to largest.

1. $\frac{2}{3}, \frac{4}{5}, \frac{5}{7}$

4. $\frac{5}{8}, \frac{10}{8}, \frac{15}{8}$

2. $\frac{1}{2}, \frac{2}{3}, \frac{2}{5}$

5. $-\frac{3}{6}, \frac{5}{9}, \frac{5}{6}$

3. $\frac{3}{4}, -\frac{1}{2}, \frac{5}{6}$



Answer Key on page 27

Lesson 3 Addition and Subtraction of Fractions

Like whole numbers, fractions can also be added and subtracted. Study the following examples that illustrate how to add and subtract similar fractions.



Exploration

Study the examples given below and try to formulate the rule in adding and subtracting similar fractions.

Example 1

$$\frac{3}{7} + \frac{2}{7} = \frac{3+2}{7} = \frac{5}{7}$$

Example 2

$$\frac{5}{8} + \frac{2}{8} = \frac{5+2}{8} = \frac{7}{8}$$

Example 3

$$\frac{4}{11} - \frac{3}{11} = \frac{4-3}{11} = \frac{1}{11}$$

Example 4

$$\frac{6}{8} - \frac{2}{8} = \frac{6-2}{8} = \frac{4}{8} = \frac{1}{2}$$

What do you notice with the denominator of the sum or difference of two fractions? _____

How do you obtain the numerator of the sum and difference from the examples above? _____

Can you give the rule in adding and subtracting similar fractions? _____

Compare your written work with the following notes.

Rule in Adding and Subtracting Similar Fractions

To add or subtract similar fractions, add or subtract their numerators and copy the common denominator, and reduce your answer to lowest term.

How do we add or subtract dissimilar fractions? _____

Below is the rule in adding and subtracting dissimilar fractions. Read and understand the rule, and try to study the examples that follow.

Rule in Adding and Subtracting Dissimilar Fractions

- Change the fractions to similar fractions by getting the least common multiple of the denominators. This is called the least common denominator or LCD.
- Add or subtract the fractions following the rule in adding and subtracting similar fractions.

Example 1

Add: $\frac{1}{2} + \frac{2}{3}$

The LCD of $\frac{1}{2}$ and $\frac{2}{3}$ is 6. How do you change the given fractions to similar fractions using 6 as the denominator?

Thus, we have $\frac{1}{2} = \frac{3}{6}$ and $\frac{2}{3} = \frac{4}{6}$.

Hence, $\frac{1}{2} + \frac{2}{3} = \frac{3}{6} + \frac{4}{6} = \frac{7}{6}$

Example 2

Subtract: $\frac{5}{6} - \frac{1}{4}$

The LCD of $\frac{5}{6}$ and $\frac{1}{4}$ is 12. We now change these fractions to similar fractions using 12 as the denominator.

Thus, we have $\frac{5}{6} = \frac{10}{12}$ and $\frac{1}{4} = \frac{3}{12}$.

Therefore, $\frac{5}{6} - \frac{1}{4} = \frac{10}{12} - \frac{3}{12} = \frac{7}{12}$

- To get the sum or difference of similar fractions, add or subtract the numerators and copy the common denominator
- To add or subtract dissimilar fractions, change the fractions to similar fractions by finding the LCD and applying the rule in adding or subtracting similar fractions



Self-check 3

A. Find the sum. Express the answers in lowest term.

1. $\frac{5}{11} + \frac{3}{11}$

3. $\frac{1}{8} + \frac{2}{4}$

2. $\frac{2}{14} + \frac{5}{14} + \frac{3}{14}$

4. $\frac{1}{6} + \frac{2}{3}$

$$5. \frac{3}{9} + \frac{1}{3}$$

B. Find the difference. Express the answers in lowest term.

$$1. \frac{3}{8} - \frac{1}{8}$$

$$4. \frac{5}{7} - \frac{4}{5}$$

$$2. \frac{5}{11} - \frac{2}{11}$$

$$5. \frac{10}{12} - \frac{2}{8}$$

$$3. \frac{3}{4} - \frac{1}{2}$$



Answer Key on page 28

Lesson 4 Multiplication and Division of Fractions



Exploration

You learned how to add and subtract fractions from the previous lesson. This time, let us consider multiplication and division of fractions. Study the following rule in multiplying fractions

Multiplication of Fractions

Rule in Multiplying Fractions

To multiply fractions, multiply the numerators of the factors to get the numerator of the product and multiply the denominators of the factors to get the denominator of the product, then reduce your answer to lowest term.

The following examples will help you to understand the rule.

Example 1

$$\text{Multiply: } \frac{2}{3} \times \frac{5}{7}$$

$$\frac{2}{3} \times \frac{5}{7} = \frac{2 \times 5}{3 \times 7} = \frac{10}{21}$$

Example 2

$$\text{Multiply: } \frac{5}{6} \times \frac{3}{2}$$

$$\frac{5}{6} \times \frac{3}{2} = \frac{5 \times 3}{6 \times 2} = \frac{15}{12} = \frac{5}{4}$$

Example 3

$$\text{Multiply: } \frac{3}{4} \times \frac{6}{9}$$

$$\frac{3}{4} \times \frac{6}{9} = \frac{3 \times 6}{4 \times 9} = \frac{18}{36} = \frac{1}{2}$$

Notice from Examples 2 and 3 that the products were reduced to lowest term.

Dividing Fractions

Let us consider the process of dividing fractions. Study the examples given below in order to discover the rule.

Example 1

$$\text{Divide: } \frac{2}{3} \div \frac{5}{7}$$

$$\frac{2}{3} \div \frac{5}{7} = \frac{2}{3} \times \frac{7}{5} = \frac{14}{15}$$

Example 2

$$\text{Divide: } \frac{1}{5} \div \frac{3}{7}$$

$$\frac{1}{5} \div \frac{3}{7} = \frac{1}{5} \times \frac{7}{3} = \frac{7}{15}$$

Example 3

$$\text{Divide: } \frac{5}{4} \div \frac{4}{10}$$

$$\frac{5}{4} \div \frac{4}{10} = \frac{5}{4} \times \frac{10}{4} = \frac{50}{16} = \frac{25}{8}$$

Can you give the rule in dividing fractions?

Rule in Dividing Fractions

To divide fractions, multiply the dividend by the reciprocal of the divisor and reduce the answer to lowest term.

Summing up:

- To multiply fractions, multiply the numerators to get the numerator of the product and then multiply the denominator to get the denominator of the product
- To divide fractions, multiply the dividend by the reciprocal of the divisor



Self-check 4

A. Find each product. Express all answers in lowest term.

1. $\frac{12}{15} \times \frac{3}{9}$

4. $\frac{1}{2} \times \frac{3}{5} \times \frac{6}{4}$

2. $\frac{3}{4} \times \frac{16}{15}$

5. $\frac{1}{3} \times \frac{2}{3} \times \frac{3}{8}$

3. $\frac{8}{9} \times \frac{12}{24}$

B. Find the quotient. Reduce the answer to lowest term.

1. $\frac{1}{10} \div \frac{5}{20}$

4. $\frac{3}{5} \div \frac{1}{2}$

2. $\frac{1}{3} \div \frac{4}{12}$

5. $\frac{8}{10} \div \frac{1}{9}$

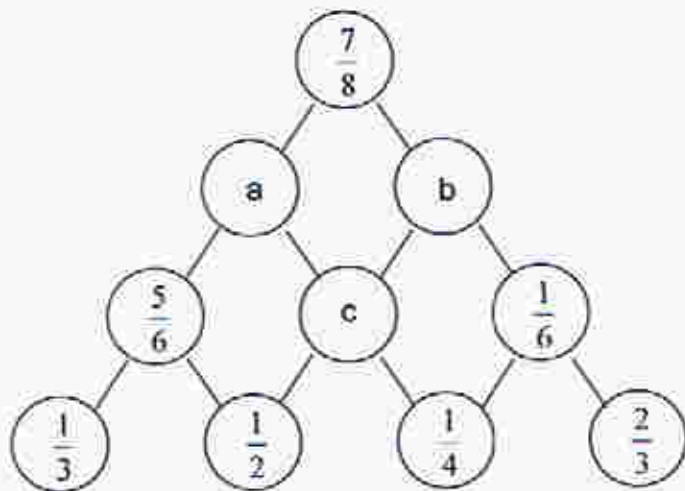
3. $\frac{2}{3} \div \frac{1}{2}$

C. Complete the tables below.

| | | | | |
|---------------|---------------|---------------|---------------|---------------|
| X | $\frac{1}{5}$ | $\frac{2}{3}$ | $\frac{3}{5}$ | $\frac{1}{2}$ |
| $\frac{2}{3}$ | | | | |
| $\frac{1}{4}$ | | | | |

| | | | | |
|---------------|---------------|---------------|---------------|---------------|
| X | $\frac{1}{2}$ | $\frac{7}{2}$ | $\frac{1}{4}$ | $\frac{2}{3}$ |
| $\frac{9}{4}$ | | | | |
| $\frac{3}{4}$ | | | | |

D. Test your skills on the four operations on fractions using this pyramid. Start from the bottom of the pyramid and perform the operations upward. The lines show where you should place your answer. Solve for a, b, and c.



Answer Key on page 28



Let's summarize

Let us summarize what we have learned from this module.

- A rational number is any number that can be expressed as a quotient of two integers.
- A rational number can be in the form of fraction or decimal.
- A decimal is a rational number if it is a terminating decimal or repeating non-terminating decimal.
- To add or subtract similar fractions, add or subtract their numerators and copy the common denominator.
- To add or subtract dissimilar fractions, change the fractions to similar fractions by finding their LCD and then proceed as in adding and subtracting similar fractions.
- To multiply fractions, multiply the numerators of the factors to get the numerator of the product and then multiply the denominators of the factors to get the denominator of the product.
- To divide fractions, multiply the dividend by the reciprocal of the divisor.



What to do after (Posttest)

Directions: Choose the letter that corresponds to the correct answer.

1. Which of the following is the smallest?

a. $\frac{2}{3}$

c. $\frac{5}{7}$

b. $\frac{1}{2}$

d. $\frac{4}{5}$

2. What is $\frac{1}{4}$ in decimal form?

a. 0.75

c. 0.20

b. 0.25

d. 0.50

3. Which of the following fractions will yield a terminating decimal?

a. $\frac{2}{3}$

c. $\frac{6}{7}$

b. $\frac{3}{8}$

d. $\frac{2}{11}$

4. What is $\frac{13}{30}$ in decimal form?

a. 0.043...

c. 0.433...

b. 0.330

d. 0.133...

5. What is 0.666... in fraction form?

a. $\frac{3}{4}$

c. $\frac{2}{3}$

b. $\frac{3}{2}$

d. $\frac{1}{3}$

6. What is the sum of $\frac{5}{8}$ and $\frac{2}{8}$?

a. $\frac{1}{8}$

c. $\frac{3}{8}$

b. $\frac{1}{3}$

d. $\frac{7}{8}$

7. What is $\frac{1}{6}$ in decimal form?

a. 0.166...

c. 0.166

b. 0.66...

d. 0.66

8. What is the product of $\frac{1}{2}$ and $\frac{3}{3}$?

a. $\frac{1}{2}$

c. $\frac{4}{6}$

b. $\frac{3}{6}$

d. both a and b

9. What is the quotient when $\frac{2}{3}$ is divided by $\frac{5}{7}$?

a. $\frac{10}{21}$

c. $\frac{3}{4}$

b. $\frac{14}{15}$

d. $\frac{1}{4}$

10. Which fraction is not equal to $\frac{1}{2}$?

a. $\frac{2}{4}$

c. $\frac{4}{8}$

b. $\frac{3}{6}$

d. $\frac{1}{4}$



Answer Key on page 30

Answer Key

Pretest page 3

- | | |
|------|-------|
| 1. c | 6. c |
| 2. c | 7. d |
| 3. d | 8. a |
| 4. a | 9. c |
| 5. b | 10. c |

Lesson 1 Self-Check 1 page 9

A

- 0.24, terminating decimal
- 0.6, terminating decimal
- 0.636363..., repeating non-terminating decimal
- 0.8, terminating decimal
- 0.454545..., repeating non-terminating decimal

B.

- | | |
|------------------|-------------------|
| 1. $\frac{3}{4}$ | 4. $\frac{3}{20}$ |
| 2. $\frac{1}{2}$ | 5. $\frac{1}{3}$ |
| 3. $\frac{2}{3}$ | |

Lesson 2 Self-Check 2 page 15

A.

- | | |
|-------------------|-------------------|
| 1. $\frac{5}{6}$ | 4. $\frac{3}{4}$ |
| 2. $\frac{4}{3}$ | 5. $-\frac{5}{4}$ |
| 3. $-\frac{2}{3}$ | |

B.

- | | |
|--|--|
| 1. $\frac{2}{3}, \frac{5}{7}, \frac{4}{5}$ | 2. $\frac{2}{5}, \frac{1}{2}, \frac{2}{3}$ |
|--|--|

$$3. -\frac{1}{2}, \frac{3}{4}, \frac{5}{6}$$

$$4. \frac{5}{8}, \frac{10}{8}, \frac{15}{8}$$

Lesson 3 Self-Check 3 page 19

A.

$$1. \frac{8}{11}$$

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

$$3. \frac{5}{8}$$

B.

$$1. \frac{1}{4}$$

$$2. \frac{3}{11}$$

$$3. \frac{1}{4}$$

$$5. -\frac{3}{6}, \frac{5}{9}, \frac{5}{6}$$

$$4. \frac{5}{6}$$

$$5. \frac{2}{3}$$

$$4. -\frac{3}{35}$$

$$5. \frac{7}{12}$$

Lesson 4 Self-Check 4 page 22

A.

$$1. \frac{4}{15}$$

$$2. \frac{4}{5}$$

$$3. \frac{4}{9}$$

$$4. \frac{9}{20}$$

$$5. \frac{1}{12}$$

B.

1. $\frac{2}{5}$

2. 1

3. $\frac{1}{4}$

4. $\frac{6}{5}$

5. $\frac{36}{5}$

C.

| | | | | |
|---------------|----------------|----------------|----------------|---------------|
| X | $\frac{1}{5}$ | $\frac{2}{3}$ | $\frac{3}{5}$ | $\frac{1}{2}$ |
| $\frac{2}{3}$ | $\frac{2}{15}$ | $\frac{2}{3}$ | $\frac{2}{5}$ | $\frac{2}{3}$ |
| $\frac{1}{4}$ | $\frac{1}{20}$ | $\frac{2}{15}$ | $\frac{3}{20}$ | $\frac{1}{8}$ |

| | | | | |
|---------------|---------------|----------------|----------------|---------------|
| X | $\frac{1}{2}$ | $\frac{7}{2}$ | $\frac{1}{4}$ | $\frac{2}{3}$ |
| $\frac{9}{4}$ | $\frac{9}{8}$ | $\frac{63}{8}$ | $\frac{9}{16}$ | $\frac{3}{2}$ |
| $\frac{3}{4}$ | $\frac{3}{8}$ | $\frac{21}{8}$ | $\frac{3}{8}$ | $\frac{1}{2}$ |

D.

$$a = \frac{1}{4}$$

$$b = \frac{3}{2}$$

$$c = \frac{7}{12}$$

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1. b
2. b
3. b
4. c
5. c

6. d
7. a
8. d
9. b
10. d

END OF MODULE

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