



Mathematics 4 Microlearning Module

QUARTER 3 – Module 2

Comparing Dissimilar Fractions Using the Symbols =, >, and <.





REGION XII - DIVISION OF SULTAN KUDARAT

Mathematics 4 Microlearning Module (MLM) Quarter 3 – Module 2: Comparing Dissimilar Fractions Using the Symbols =, >, and <.

First Edition, 2024

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Published by the Department of Education- RO XII, Division of Sultan Kudarat

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Printed in the Philippines by

Department of Education – Region XII, Division of Sultan Kudarat

Office Address: Kenram, Isulan, Sultan Kudarat Telefax: 064-471-1007 E-mail Address: depedsk.r12@deped.gov.ph

MICROLEARNING MODULE

Name:	Grade & S	ec:	Score:	
Subject:	Quarter: _	3	MLM No.	2 _
Teacher:				
Competency:	Compare dissimilar fraction	ns using the	symbols =, >,	and <

A. Look Back!

Identification. Identify whether the following fractions are SIMILAR or DISSIMILAR fractions. Write your answer on the line provided before each number.



B. What's New?

Directions: Compare the following using =, <, or >.



C. What Is It?

Dissimilar Fractions do not have the same denominator. Example: $\frac{3}{4}$, $\frac{1}{6}$, $\frac{3}{7}$, and $\frac{2}{3}$ are dissimilar fractions. We can **compare** dissimilar fractions using the symbols "=" equals, ">" greater than, or "<" less than.

There are Four (4) Methods to Compare Dissimilar Fractions. Comparing Fraction with Unlike Denominators, Decimal Method of Comparing Fractions, Comparing Fractions using Visualization, and Comparing Fractions using Cross Multiplication.

Comparing Fraction with Unlike Denominators. For comparing fractions with unlike denominators, we need to convert them to like denominators, for which we should find the <u>Least Common Multiple</u> (<u>LCM</u>) of the denominators. When the denominators are made the same, we can compare the fractions easily. For example, let us compare. $\frac{1}{2}$ and $\frac{2}{5}$.

Step 1: Observe the denominators of the given fractions: $\frac{1}{2}$ and $\frac{2}{5}$. They are different. So, find the LCM of 2 and 5. LCM (2, 5) = 10.

Step 2: Now, convert or rewrite them so that denominators become the same. Let us multiply the first fraction with $\frac{5}{5}$, that is, $\frac{1}{2} \times \frac{5}{5} = \frac{5}{10}$.

Step 3: Now, let us multiply the second fraction with $\frac{2}{2}$ that is, $\frac{2}{5} \times \frac{2}{2} = \frac{4}{10}$.

Step 4: Compare the fractions: $\frac{5}{10}$ and $\frac{4}{10}$. Since the denominators are the same, we will compare the numerators, and we can see that, 5 > 4.

Step 5: The fraction with the larger numerator has the larger value, that is, $\frac{5}{10} > \frac{4}{10}$. Therefore, $\frac{1}{2} > \frac{2}{5}$.

It should be noted that if the denominators are different and the numerators are the same, then we can easily compare fractions by looking at their denominators. The fraction with a smaller denominator has a greater value and the fraction with a larger denominator has a smaller value. For example, $\frac{2}{3} > \frac{2}{6}$.

Decimal Method of Comparing Fractions. In this method, we compare the decimal values of fractions. For this, the numerator of the fraction is divided by the denominator and converted into a decimal. Then, the decimal values are compared. For example, let us compare $\frac{4}{5}$ and $\frac{6}{8}$.

Step 1: Write $\frac{4}{5}$ and $\frac{6}{8}$ in decimals. $\frac{4}{5} = 0.8$ and $\frac{6}{8} = 0.75$. **Step 2:** Compare the decimal values. 0.8 > 0.75 **Step 3:** The fraction with a larger decimal value would be larger. Therefore, $\frac{4}{5} > \frac{6}{8}$.

Comparing Fractions Using Visualization. We can use various graphical methods and models to visualize larger fractions. Observe the figure given below which shows Model A and B that represent two fractions. We can easily determine that, $\frac{4}{8} < \frac{4}{6}$ because $\frac{4}{6}$ covers a larger shaded area than $\frac{4}{8}$. Note that the smaller fraction occupies a lesser area of the same whole. A point to be taken into consideration here is that the size of models A and B should be the same for the comparison to be valid. Each model is divided into equal parts, equivalent to their respective denominators.



Comparing Fractions Using Cross Multiplication. For comparing fractions using cross multiplication, we can multiply the numerator of one fraction with the denominator of the other fraction. Let us understand this with the help of an example. Compare $\frac{1}{2}$ and $\frac{3}{4}$. Observe the figure given below which explains this better.

Step 1: When we cross-multiply the given fractions to compare them, we need to keep in mind that if we are multiplying the numerator of the first fraction with the denominator of the second fraction, we should write the product next to the first fraction. Here, $1 \times 4 = 4$, and we will write 4 next to the first fraction. (Write the product on the side of the selected numerator)

$$\frac{1}{2}$$

Step 2: Similarly, when we are multiplying the numerator of the second fraction with the denominator of the first fraction, we should write the

product next to the second fraction. Here, $3 \times 2 = 6$, and we will write 6 near the second fraction.

$$\begin{array}{c}
1 \\
2 \\
\hline
4 \\
\hline
6
\end{array}$$

Step 3: Now, compare the products 4 and 6. Since 4 < 6, the respective fractions can be easily compared, that is, $\frac{1}{2} < \frac{3}{4}$. Therefore, $\frac{1}{2} < \frac{3}{4}$.



D. Let's Try!

I. **Directions:** Compare each pair of dissimilar fractions using the symbols: >, <, or =.



II. Directions: Compare the illustration of fractions using the symbols:
>, <, or =.</p>







E. Let's Evaluate!

I. Directions: Choose and encircle the letter of the correct answer.

1. Which of the following is greater than $\frac{7}{9}$? a. $\frac{4}{9}$ c. $\frac{5}{9}$ d. $\frac{1}{9}$ b. $\frac{7}{2}$ 2. Which of the following is less than $\frac{5}{2}$? b. $\frac{26}{8}$ c. $\frac{7}{2}$ d. $\frac{31}{10}$ a. $\frac{4}{6}$ 3. Which of the following is equal to $\frac{3}{4}$? b. $\frac{6}{10}$ a. $\frac{7}{10}$ c. $\frac{5}{2}$ d. ⁶/_o 4. Which of the following is not greater than $\frac{2}{3}$? b. $\frac{2}{5}$ c. $\frac{3}{4}$ a. $\frac{4}{6}$ d. $\frac{5}{2}$ 5. Which of the following is equal to $\frac{15}{6}$? b. $\frac{7}{10}$ c. $\frac{2}{10}$ d. $\frac{7}{3}$ a. $\frac{5}{2}$ 6. What is the correct symbol in the space provided? $\frac{1}{2}$ _____3 a. > c. < b. = d. + 7. Alfred wrote a true statement. Which of the following could be his statement? a. $\frac{3}{6}$ is greater than $\frac{1}{2}$ c. $\frac{3}{5}$ is less than $\frac{3}{4}$ d. $\frac{3}{10}$ is greater than $\frac{2}{4}$ b. $\frac{1}{4}$ is less than $\frac{1}{8}$

8. $\frac{3}{6} - \frac{8}{12}$ c. < a. > b. = d. + 9. Which of the following has a value greater than $\frac{2}{3}$? c. $\frac{1}{3}$ d. $\frac{4}{6}$ a. $\frac{2}{4}$ b. $\frac{3}{4}$ 10. Compare $\frac{1}{4}$ and $\frac{1}{7}$. a. $\frac{1}{4} > \frac{1}{7}$ c. $\frac{1}{4} = \frac{1}{7}$ d. $\frac{1}{4} + \frac{1}{7}$ b. $\frac{1}{4} < \frac{1}{7}$ 11. Keera wrote a false statement. Which of the following could be her statement? c. $\frac{5}{6}$ is less than $\frac{23}{25}$ d. $\frac{18}{36}$ is greater than $\frac{6}{36}$ a. $\frac{19}{25}$ is greater than $\frac{36}{120}$ b. $\frac{1}{2}$ is less than $\frac{24}{200}$ $12.\frac{3}{8} - \frac{12}{24}$ a. > c. < b. = d. + $13.\frac{10}{20} - \frac{9}{18}$ a. > c. < b. = d. + 14. Apollo wrote a false statement. Which of the following could be his statement?

	mo statement.	
	a. $\frac{10}{12}$ is greater than $\frac{9}{30}$	c. $\frac{4}{12}$ is less than $\frac{20}{48}$
	b. $\frac{6}{30}$ is less than $\frac{5}{10}$	d. $\frac{1}{16}$ is greater than $\frac{4}{10}$
	15. Compare $\frac{35}{80}$ and $\frac{17}{25}$.	
	a. $\frac{35}{80} > \frac{17}{25}$	C. $\frac{35}{80} = \frac{17}{25}$
	b. $\frac{35}{80} < \frac{17}{25}$	d. $\frac{35}{80} + \frac{17}{25}$
	16. Compare $\frac{4}{5}$ and $\frac{8}{10}$.	
	a. $\frac{4}{5} > \frac{8}{10}$	C. $\frac{4}{5} = \frac{8}{10}$
b.	$\frac{4}{5} < \frac{8}{10}$	d. $\frac{4}{5} + \frac{8}{10}$
	17 20 4	
	$17.\overline{30}$ $\overline{6}$	
	a. >	c. <

- b. = d. + 18. Which of the following has a value equal to $\frac{2}{5}$? a. $\frac{6}{18}$ c. $\frac{18}{45}$ b. $\frac{10}{35}$ d. $\frac{12}{36}$
- 19. Gertrude wrote a true statement. Which of the following could be her statement?
- a. $\frac{1}{2}$ is greater than $\frac{20}{60}$ c. $\frac{1}{5}$ is less than $\frac{4}{36}$ b. $\frac{7}{10}$ is less than $\frac{1}{16}$ d. $\frac{5}{50}$ is greater than $\frac{4}{6}$

20. Cassy wrote a false statement. Which of the following could be her statement?

a. $\frac{1}{2}$ is equal to $\frac{2}{5}$ c. $\frac{3}{6}$ is equal to $\frac{6}{12}$ b. $\frac{30}{72}$ is less than $\frac{23}{50}$ d. $\frac{6}{8}$ is greater than $\frac{10}{15}$

II. **Directions:** Write >, =, or < to compare the fractions.

1.	$\frac{8}{20}$ — $\frac{3}{6}$	6. $\frac{1}{10} - \frac{1}{4}$
2.	$\frac{5}{15} - \frac{7}{12}$	7. $\frac{2}{4}$ — $\frac{10}{40}$
3.	$\frac{4}{5} - \frac{7}{10}$	8. $\frac{5}{12}$ — $\frac{1}{2}$
4.	$\frac{3}{6} - \frac{2}{4}$	9. $\frac{3}{9}$ — $\frac{10}{50}$
5.	$\frac{5}{8} - \frac{2}{6}$	10. $\frac{48}{60} - \frac{16}{20}$

III. **Directions:** Write TRUE if the statement is correct and FALSE if it is wrong.

_____1. $\frac{7}{20}$ is less than $\frac{3}{6}$

$$2. \frac{40}{60} \text{ is greater than } \frac{42}{75}$$

$$3. \frac{8}{18} \text{ is equal to } \frac{1}{2}$$

$$4. \frac{2}{5} \text{ is less than } \frac{2}{4}$$

$$5. \frac{7}{28} \text{ is greater than } \frac{2}{8}$$

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