



Name _____ Date _____

Comparing and Ordering Rational Numbers

(Pages 261–264)

One way to compare two rational numbers is to write them with fractions that have the same denominator. You could use any common denominator, but it is usually easiest to use the **least common denominator (LCD)**. The LCD is the same as the LCM of the denominators. You can also write the fractions as decimals and compare the decimals.

EXAMPLES

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

The LCD is 15.

Rewrite $\frac{2}{3}$ and $\frac{3}{5}$ with the LCD.

$$\frac{2}{3} = \frac{10}{15}$$

$$\frac{3}{5} = \frac{9}{15}$$

Since $\frac{10}{15} > \frac{9}{15}$, $\frac{2}{3}$ is greater than $\frac{3}{5}$.

B Which is greater, 0.3 or $\frac{1}{3}$?

Rewrite $\frac{1}{3}$ as the decimal 0.3333... .
0.333... is greater than 0.3.

$\frac{1}{3}$ is greater than 0.3.

Try These Together

1. Find the LCD for $\frac{3}{4}$ and $\frac{2}{3}$.

HINT: What is the LCM of 4 and 3?

2. Find the LCD for $\frac{1}{15}$ and $\frac{3}{5}$.

HINT: What is the LCM of 15 and 5?

PRACTICE

Find the LCD for each pair of fractions.

3. $\frac{5}{6}, \frac{7}{8}$

4. $\frac{5}{7}, \frac{9}{10}$

5. $\frac{5}{6}, \frac{3}{14}$

Replace each \bullet with $<$, $>$, or $=$ to make a true sentence.

6. $4\frac{4}{5} \bullet 4\frac{7}{10}$

7. $\frac{1}{3} \bullet \frac{3}{8}$

8. $8.65 \bullet 8\frac{8}{9}$

Order each set of rational numbers from least to greatest.

9. $\frac{1}{8}, \frac{1}{4}, \frac{1}{5}, \frac{1}{9}$

10. $\frac{5}{12}, \frac{3}{4}, 0.5, 0.55$

11. $-3.5, -3.65, -3\frac{3}{8}, -3\frac{5}{6}$

12. **Sports** The middle school basketball team won 12 out of their 15 games. The high school volleyball team won 20 out of their 24 games. Which team had the better record?



13. **Standardized Test Practice** Which is greatest, 1.68, 1.6, $1\frac{2}{3}$, or $1\frac{7}{9}$?

A $1\frac{2}{3}$

B 1.68

C $1\frac{7}{9}$

D 1.6

Answers: 1. 12, 2. 15, 3. 24, 4. 70, 5. 42, 6. $>$, 7. $<$, 8. $<$, 9. $\frac{9}{1}, \frac{8}{1}, \frac{5}{1}, \frac{4}{1}$, 10. $\frac{12}{5}, 0.5, 0.55, \frac{4}{3}$, 11. $-3\frac{5}{6}, -3.65, -3.5, -3\frac{3}{8}$, 12. the volleyball team, 13. C