5-8

Name _____ Date _____

Comparing and Ordering Fractions

(pages 210–213)

To compare fractions with different denominators, find the **least common denominator (LCD)**, or the LCM of the denominators.

EXAMPLES

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

The LCD of $\frac{1}{2}$ and $\frac{1}{3}$ is the LCM of 2 and 3.

*Multiples of 2: 0, 2, 4, **6**, 8*
*Multiples of 3: 0, 3, **6**, 9*
The LCM of 2 and 3 is 6, so the LCD for $\frac{1}{2}$ and $\frac{1}{3}$ is also 6.

B Which fraction is greater, $\frac{2}{3}$ or $\frac{3}{4}$?

Find the LCD of $\frac{2}{3}$ and $\frac{3}{4}$. The LCM of 3 and 4 is 12, so the LCD is also 12.

$\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$. Multiply the numerator and denominator of $\frac{2}{3}$ by 4 and multiply the numerator and denominator of $\frac{3}{4}$ by 3 in order to rewrite $\frac{2}{3}$ and $\frac{3}{4}$ as equivalent fractions with 12 as the denominator. Since $\frac{8}{12} < \frac{9}{12}$, it is true that $\frac{2}{3} < \frac{3}{4}$, so $\frac{3}{4}$ is the greater fraction.

Try These Together

1. Find the LCD for $\frac{2}{5}$ and $\frac{1}{6}$.

HINT: Find the LCM of the denominators.

2. Which fraction is greater, $\frac{1}{4}$ or $\frac{2}{5}$?

HINT: Find the LCD and then multiply both numerator and denominator to rewrite the fractions with the same denominator.

PRACTICE

Find the LCD for each pair of fractions.

3. $\frac{2}{5}, \frac{1}{3}$ **4.** $\frac{4}{7}, \frac{9}{14}$ **5.** $\frac{3}{10}, \frac{7}{8}$ **6.** $\frac{1}{4}, \frac{3}{8}$

Replace each ● with <, >, or = to make a true sentence.

7. $\frac{4}{7}$ ● $\frac{8}{14}$ **8.** $\frac{2}{7}$ ● $\frac{1}{9}$ **9.** $\frac{1}{6}$ ● $\frac{3}{18}$

10. $\frac{2}{5}$ ● $\frac{1}{3}$ **11.** $\frac{1}{5}$ ● $\frac{2}{10}$ **12.** $\frac{4}{34}$ ● $\frac{3}{17}$

13. $\frac{11}{12}$ ● $\frac{13}{16}$ **14.** $\frac{2}{3}$ ● $\frac{5}{9}$ **15.** $\frac{13}{22}$ ● $\frac{7}{11}$

16. Population The U.S. Census Bureau estimates that 10- to 19-year-olds are about $\frac{3}{20}$ of the population, and 35- to 44-year-olds are about $\frac{4}{25}$. Which age group represents more of the population?

17. **Standardized Test Practice** Order the fractions $\frac{1}{7}$, $\frac{2}{6}$, and $\frac{3}{8}$ from least to greatest.

A $\frac{3}{8}, \frac{2}{6}, \frac{1}{7}$ **B** $\frac{1}{7}, \frac{3}{8}, \frac{2}{6}$ **C** $\frac{2}{6}, \frac{1}{7}, \frac{3}{8}$ **D** $\frac{1}{7}, \frac{2}{6}, \frac{3}{8}$

Answers: 1. 30 2. $\frac{2}{5}$ 3. 15 4. 14 5. 40 6. 8 7. = 8. > 9. = 10. > 11. = 12. < 13. > 14. > 15. < 16. 35–44 17. D

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