

Comparing and Ordering Fractions

(pages 172–175)

To compare fractions, rewrite each fraction using the same denominator. Then you only need to compare the numerators.

Finding the Least Common Denominator	<p>A common denominator is a common multiple of the denominators of two or more fractions. The least common denominator (LCD) is the least common multiple (LCM) of the denominators of two or more fractions.</p> <p>To compare two fractions:</p> <ul style="list-style-type: none"> • find the LCM of the denominators, then • rewrite each fraction using this LCM as the LCD. Compare the numerators.
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EXAMPLES

A Find the LCD for $\frac{5}{6}$ and $\frac{9}{10}$.

The LCM of 6 and 10 is 30, so the

LCD for $\frac{5}{6}$ and $\frac{9}{10}$ is 30.

B Is $\frac{5}{6} <$, $>$, or $= \frac{9}{10}$?

Rewrite each fraction with the LCD of 30.

Multiply the numerator and denominator of $\frac{5}{6}$ by 5.

Multiply the numerator and denominator of $\frac{9}{10}$ by 3.

$$\frac{5}{6} = \frac{25}{30} \quad \frac{9}{10} = \frac{27}{30}$$

Since $\frac{25}{30} < \frac{27}{30}$, $\frac{5}{6} < \frac{9}{10}$.

Try These Together

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

HINT: Find the LCM of 4 and 3.

2. Is $\frac{5}{8} <$, $>$, or $= \frac{2}{3}$?

HINT: Rewrite both fractions with the same denominator.

PRACTICE

Find the LCD for each pair of fractions.

3. $\frac{5}{12}, \frac{3}{8}$

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

5. $\frac{4}{15}, \frac{1}{3}$

6. $\frac{1}{6}, \frac{1}{9}$

7. $\frac{1}{6}, \frac{5}{7}$

8. $\frac{19}{30}, \frac{7}{10}$

9. $\frac{9}{16}, \frac{1}{4}$

10. $\frac{5}{36}, \frac{11}{24}$

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

11. $\frac{8}{9} \bullet \frac{5}{6}$

12. $\frac{2}{3} \bullet \frac{8}{13}$

13. $\frac{5}{6} \bullet \frac{3}{4}$

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

15. $\frac{2}{7} \bullet \frac{1}{4}$

16. $\frac{7}{10} \bullet \frac{14}{20}$

17. $\frac{5}{11} \bullet \frac{13}{22}$

18. $\frac{15}{48} \bullet \frac{3}{8}$

19. Standardized Test Practice What is the least common denominator for

$\frac{1}{8}$ and $\frac{5}{6}$?

A 36

B 24

C 18

D 45

Answers: 1. 12 2. < 3. 24 4. 36 5. 15 6. 18 7. 42 8. 30 9. 16 10. 72 11. < 12. < 13. < 14. < 15. < 16. = 17. < 18. > 19. B