Finding Common Denominators

Grade 5 Math • Section 4.1

Name: _____	Date: _____	Score: _____ / 14

Quick Review and Helpful Hints

Common denominator: A shared multiple of two or more denominators. The **least common denominator** (LCD) is the **least common multiple** (LCM) of the denominators.

Finding the LCD: List multiples of each denominator until you find the smallest one they share. LCD of 4 and 6: multiples of 4: $4, 8, 12, \ldots$; multiples of 6: $6, 12, \ldots$ $\Rightarrow$ LCD $= 12$.

Rewrite each fraction with the LCD as the new denominator.

Example: Find the LCD of $\frac{2}{3}$ and $\frac{5}{8}$, then rewrite both fractions.

Multiples of 3: $3, 6, 9, 12, 15, 18, 21, 24$. Multiples of 8: $8, 16, 24$. LCD $= 24$. $\frac{2}{3} = \frac{16}{24}$ and $\frac{5}{8} = \frac{15}{24}$.

Answer: LCD $= 24$; $\frac{16}{24}$ and $\frac{15}{24}$

Practice Problems

Find the LCD and rewrite each pair of fractions with that denominator.

1. $\frac{1}{4}$ and $\frac{1}{6}$ LCD = _____
2. $\frac{2}{3}$ and $\frac{3}{5}$ LCD = _____
3. $\frac{3}{8}$ and $\frac{1}{6}$ LCD = _____
4. $\frac{5}{12}$ and $\frac{1}{4}$ LCD = _____
5. $\frac{2}{9}$ and $\frac{1}{3}$ LCD = _____
6. $\frac{3}{10}$ and $\frac{2}{5}$ LCD = _____
7. $\frac{7}{12}$ and $\frac{5}{8}$ LCD = _____
8. $\frac{1}{6}$ and $\frac{4}{9}$ LCD = _____
9. $\frac{3}{7}$ and $\frac{2}{3}$ LCD = _____
10. $\frac{5}{6}$ and $\frac{3}{4}$ LCD = _____
11. $\frac{1}{2}$ and $\frac{3}{8}$ LCD = _____
12. $\frac{4}{15}$ and $\frac{1}{5}$ LCD = _____

Word Problems

13. A recipe calls for $\frac{2}{3}$ cup of flour and $\frac{3}{4}$ cup of sugar. To add these, you need a common denominator. Find the LCD of 3 and 4 and rewrite both fractions.

_____

14. Marco ran $\frac{5}{6}$ of a mile and Tina ran $\frac{7}{10}$ of a mile. Find the LCD so you can compare who ran farther.

_____

Answer Keys

1. $\boxed{12}$
2. $\boxed{15}$
3. $\boxed{24}$
4. $\boxed{12}$
5. $\boxed{9}$
6. $\boxed{10}$
7. $\boxed{24}$
8. $\boxed{18}$
9. $\boxed{21}$
10. $\boxed{12}$
11. $\boxed{8}$
12. $\boxed{15}$
13. $\boxed{12;\ \frac{8}{12},\frac{9}{12}}$
14. $\boxed{30}$

Step-by-Step Explanations

1. Start with the main idea. For finding common denominators, list multiples of 4 and 6; the least common multiple is 12. Fractions are easier to combine when the pieces are the same size.

2. Keep the work tidy. For finding common denominators, list multiples of 3 and 5; the least common multiple is 15. Always simplify at the end so the answer is clean and useful.

3. Look at what the numbers mean. For finding common denominators, list multiples of 8 and 6; the least common multiple is 24. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

4. Use the setup first. For finding common denominators, list multiples of 12 and 4; the least common multiple is 12. Fractions are easier to combine when the pieces are the same size.

5. Check the size of the answer. For finding common denominators, list multiples of 9 and 3; the least common multiple is 9. Always simplify at the end so the answer is clean and useful.

6. Match the operation to the words. For finding common denominators, list multiples of 10 and 5; the least common multiple is 10. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

7. Write the important values first. For finding common denominators, list multiples of 12 and 8; the least common multiple is 24. Fractions are easier to combine when the pieces are the same size.

8. Follow the pattern carefully. For finding common denominators, list multiples of 6 and 9; the least common multiple is 18. Always simplify at the end so the answer is clean and useful.

9. Start with the main idea. For finding common denominators, list multiples of 7 and 3; the least common multiple is 21. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

10. Keep the work tidy. For finding common denominators, list multiples of 6 and 4; the least common multiple is 12. Fractions are easier to combine when the pieces are the same size.

11. Look at what the numbers mean. For finding common denominators, list multiples of 2 and 8; the least common multiple is 8. Always simplify at the end so the answer is clean and useful.

12. Use the setup first. For finding common denominators, list multiples of 15 and 5; the least common multiple is 15. For mixed numbers, converting to improper fractions can make the arithmetic calmer.

13. Check the size of the answer. For finding common denominators, the LCD of 3 and 4 is 12, so rewrite $\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$. Fractions are easier to combine when the pieces are the same size.

14. Match the operation to the words. For finding common denominators, the LCD of 6 and 10 is 30; then compare $\frac{25}{30}$ and $\frac{21}{30}$. Always simplify at the end so the answer is clean and useful.

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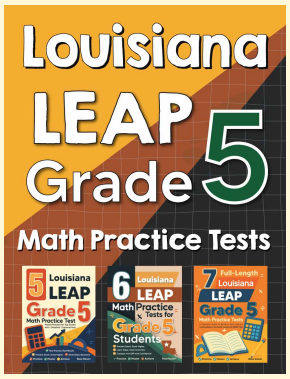

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