Subtracting Fractions with Unlike Denominators

Name: _____	Date: _____	Score: _____ / 24

Quick Review

Subtracting fractions works just like adding them: the pieces must be the same size first. Rewrite each fraction with a **common denominator** (the least common multiple of the two denominators), then **subtract the numerators** and keep the denominator. For $\frac{1}{2} - \frac{1}{3}$, use 6: $\frac{3}{6} - \frac{2}{6} = \frac{1}{6}$. Always **simplify** your answer at the end. Remember — the denominator tells the size of the piece, so it stays the same; only the numerators are subtracted.

◇ **Example:** Subtract $\frac{1}{2} - \frac{1}{3}$.

⇒ The denominators 2 and 3 do not match, so find a common denominator: the least common multiple is 6. Rewrite each fraction: $\frac{1}{2} = \frac{3}{6}$ and $\frac{1}{3} = \frac{2}{6}$. Now the pieces are the same size, so subtract the numerators: $3 - 2 = 1$. Keep the denominator 6, giving $\frac{1}{6}$, which is already in simplest form.

Answer: $\frac{1}{6}$

PRACTICE

Subtract. Write each answer in simplest form.

1. $\frac{1}{2} - \frac{1}{3}$ _____
2. $\frac{3}{4} - \frac{1}{6}$ _____
3. $\frac{2}{3} - \frac{1}{4}$ _____
4. $\frac{5}{6} - \frac{1}{2}$ _____
5. $\frac{3}{5} - \frac{1}{2}$ _____
6. $\frac{7}{8} - \frac{1}{4}$ _____
7. $\frac{4}{5} - \frac{3}{10}$ _____
8. $\frac{2}{3} - \frac{2}{5}$ _____
9. $\frac{5}{6} - \frac{1}{3}$ _____
10. $\frac{3}{4} - \frac{2}{5}$ _____
11. $\frac{7}{9} - \frac{1}{3}$ _____
12. $\frac{5}{8} - \frac{1}{3}$ _____
13. $\frac{4}{5} - \frac{1}{4}$ _____
14. $\frac{11}{12} - \frac{1}{3}$ _____
15. $\frac{3}{4} - \frac{1}{8}$ _____
16. $\frac{5}{7} - \frac{1}{2}$ _____
17. $\frac{9}{10} - \frac{2}{5}$ _____
18. $\frac{2}{3} - \frac{1}{12}$ _____
19. $\frac{7}{12} - \frac{1}{4}$ _____
20. $\frac{5}{9} - \frac{1}{6}$ _____

Word Problems

21. A water jug was $\frac{3}{4}$ full. After lunch it was $\frac{1}{6}$ full. How much water was used? _____
22. Ava had $\frac{5}{6}$ yard of ribbon and used $\frac{1}{3}$ yard for a bow. How much ribbon is left? _____
23. A phone battery was at $\frac{4}{5}$ charge and dropped by $\frac{3}{10}$ during a movie. What fraction of charge remains? _____
24. A recipe calls for $\frac{7}{8}$ cup of milk, but Leo only pours in $\frac{1}{4}$ cup. How much more milk does he need? _____

Answer Keys

1. $\frac{1}{6}$
2. $\frac{7}{12}$
3. $\frac{5}{12}$
4. $\frac{1}{3}$
5. $\frac{1}{10}$
6. $\frac{5}{8}$
7. $\frac{1}{2}$
8. $\frac{4}{15}$
9. $\frac{1}{2}$
10. $\frac{7}{20}$
11. $\frac{4}{9}$
12. $\frac{7}{24}$
13. $\frac{11}{20}$
14. $\frac{7}{12}$
15. $\frac{5}{8}$
16. $\frac{3}{14}$
17. $\frac{1}{2}$
18. $\frac{7}{12}$
19. $\frac{1}{3}$
20. $\frac{7}{18}$
21. $\frac{7}{12}$ of the jug
22. $\frac{1}{2}$ yard
23. $\frac{1}{2}$
24. $\frac{5}{8}$ cup

Step-by-Step Explanations

1. Common denominator 6: $\frac{3}{6} - \frac{2}{6} = \frac{1}{6}$.
2. Common denominator 12: $\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$.
3. Common denominator 12: $\frac{8}{12} - \frac{3}{12} = \frac{5}{12}$.
4. Common denominator 6: $\frac{5}{6} - \frac{3}{6} = \frac{2}{6} = \frac{1}{3}$.
5. Common denominator 10: $\frac{6}{10} - \frac{5}{10} = \frac{1}{10}$.
6. Common denominator 8: $\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$.
7. Common denominator 10: $\frac{8}{10} - \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$.
8. Common denominator 15: $\frac{10}{15} - \frac{6}{15} = \frac{4}{15}$.
9. Common denominator 6: $\frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$.
10. Common denominator 20: $\frac{15}{20} - \frac{8}{20} = \frac{7}{20}$.
11. Common denominator 9: $\frac{7}{9} - \frac{3}{9} = \frac{4}{9}$.
12. Common denominator 24: $\frac{15}{24} - \frac{8}{24} = \frac{7}{24}$.
13. Common denominator 20: $\frac{16}{20} - \frac{5}{20} = \frac{11}{20}$.
14. Common denominator 12: $\frac{11}{12} - \frac{4}{12} = \frac{7}{12}$.
15. Common denominator 8: $\frac{6}{8} - \frac{1}{8} = \frac{5}{8}$.
16. Common denominator 14: $\frac{10}{14} - \frac{7}{14} = \frac{3}{14}$.
17. Common denominator 10: $\frac{9}{10} - \frac{4}{10} = \frac{5}{10} = \frac{1}{2}$.
18. Common denominator 12: $\frac{8}{12} - \frac{1}{12} = \frac{7}{12}$.
19. Common denominator 12: $\frac{7}{12} - \frac{3}{12} = \frac{4}{12} = \frac{1}{3}$.
20. Common denominator 18: $\frac{10}{18} - \frac{3}{18} = \frac{7}{18}$.
21. Common denominator 12: $\frac{9}{12} - \frac{2}{12} = \frac{7}{12}$ of the jug.
22. Common denominator 6: $\frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$ yard.
23. Common denominator 10: $\frac{8}{10} - \frac{3}{10} = \frac{5}{10} = \frac{1}{2}$ charge.
24. Common denominator 8: $\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$ cup more.

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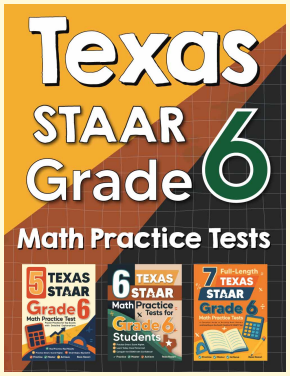

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