Subtracting Fractions with Like Denominators

Name: _____ Date: _____ Score: _____ / 24

Quick Review

Subtracting fractions with the **same denominator** works just like adding them, only you take away instead of combine. **Subtract the numerators** (the top numbers) and **keep the denominator the same**. For example, $\frac{5}{6} - \frac{2}{6} = \frac{3}{6}$: five sixths take away two sixths leaves three sixths. The size of the pieces does not change, so the bottom number stays put. When you are done, check whether the answer can be written in **simplest form**. Remember that a whole, like 1, can be written as a fraction such as $\frac{4}{4}$ when you need to subtract from it.

◇ **Example:** Subtract $\frac{7}{8} - \frac{3}{8}$.

⇒ Both fractions are eighths, so the pieces are the same size. Subtract just the numerators: $7 - 3 = 4$. Keep the denominator 8 the same, because the pieces are still eighths. That gives $\frac{4}{8}$. Now simplify: both 4 and 8 divide by 4, so $\frac{4}{8} = \frac{1}{2}$.

Answer: $\frac{1}{2}$

PRACTICE

Subtract each pair of fractions. Write each answer in simplest form.

1. $\frac{3}{4} - \frac{1}{4}$ _____
2. $\frac{4}{5} - \frac{2}{5}$ _____
3. $\frac{5}{6} - \frac{1}{6}$ _____
4. $\frac{7}{8} - \frac{2}{8}$ _____
5. $\frac{9}{10} - \frac{3}{10}$ _____
6. $\frac{2}{3} - \frac{1}{3}$ _____
7. $\frac{5}{8} - \frac{1}{8}$ _____
8. $\frac{11}{12} - \frac{5}{12}$ _____
9. $\frac{4}{6} - \frac{2}{6}$ _____
10. $\frac{7}{10} - \frac{2}{10}$ _____
11. $\frac{3}{5} - \frac{3}{5}$ _____
12. $\frac{5}{12} - \frac{1}{12}$ _____
13. $\frac{7}{8} - \frac{5}{8}$ _____
14. $\frac{5}{6} - \frac{3}{6}$ _____
15. $1 - \frac{1}{4}$ _____
16. $1 - \frac{3}{8}$ _____
17. $1 - \frac{2}{3}$ _____
18. $\frac{80}{100} - \frac{30}{100}$ _____
19. $\frac{11}{12} - \frac{3}{12}$ _____
20. $\frac{9}{10} - \frac{4}{10} - \frac{1}{10}$ _____

Word Problems

21. A pitcher was $\frac{7}{8}$ full of lemonade. After lunch, $\frac{3}{8}$ of the pitcher had been poured out. What fraction of the pitcher is left? _____

22. Owen had $\frac{5}{6}$ of a chocolate bar. He gave $\frac{1}{6}$ of the bar to a friend. How much of the bar does Owen have now? _____

23. A school garden is one whole plot. So far $\frac{3}{10}$ of it has been planted. What fraction of the garden still needs to be planted? _____

24. Grace ran $\frac{11}{12}$ of a mile. Her brother ran $\frac{5}{12}$ of a mile. How much farther did Grace run than her brother? _____

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Answer Keys

1. $\frac{1}{2}$
2. $\frac{2}{5}$
3. $\frac{2}{3}$
4. $\frac{5}{8}$
5. $\frac{3}{5}$
6. $\frac{1}{3}$
7. $\frac{1}{2}$
8. $\frac{1}{2}$
9. $\frac{1}{3}$
10. $\frac{1}{2}$
11. 0
12. $\frac{1}{3}$
13. $\frac{1}{4}$
14. $\frac{1}{3}$
15. $\frac{3}{4}$
16. $\frac{5}{8}$
17. $\frac{1}{3}$
18. $\frac{1}{2}$
19. $\frac{2}{3}$
20. $\frac{2}{5}$
21. $\frac{1}{2}$
22. $\frac{2}{3}$ of the bar
23. $\frac{7}{10}$ of the garden
24. $\frac{1}{2}$ mile

Step-by-Step Explanations

1. Subtract the tops: $3 - 1 = 2$, giving $\frac{2}{4}$, which simplifies to $\frac{1}{2}$.
2. Subtract the tops: $4 - 2 = 2$. Keep the bottom 5.
3. Subtract the tops: $5 - 1 = 4$, giving $\frac{4}{6}$, which simplifies to $\frac{2}{3}$.
4. Subtract the tops: $7 - 2 = 5$. Keep the bottom 8.
5. Subtract the tops: $9 - 3 = 6$, giving $\frac{6}{10}$, which simplifies to $\frac{3}{5}$.
6. Subtract the tops: $2 - 1 = 1$. Keep the bottom 3.
7. Subtract the tops: $5 - 1 = 4$, giving $\frac{4}{8}$, which simplifies to $\frac{1}{2}$.
8. Subtract the tops: $11 - 5 = 6$, giving $\frac{6}{12}$, which simplifies to $\frac{1}{2}$.
9. Subtract the tops: $4 - 2 = 2$, giving $\frac{2}{6}$, which simplifies to $\frac{1}{3}$.
10. Subtract the tops: $7 - 2 = 5$, giving $\frac{5}{10}$, which simplifies to $\frac{1}{2}$.
11. Subtract the tops: $3 - 3 = 0$. Zero fifths is just 0.
12. Subtract the tops: $5 - 1 = 4$, giving $\frac{4}{12}$, which simplifies to $\frac{1}{3}$.
13. Subtract the tops: $7 - 5 = 2$, giving $\frac{2}{8}$, which simplifies to $\frac{1}{4}$.
14. Subtract the tops: $5 - 3 = 2$, giving $\frac{2}{6}$, which simplifies to $\frac{1}{3}$.
15. Write 1 as $\frac{4}{4}$. Then $\frac{4}{4} - \frac{1}{4} = \frac{3}{4}$.
16. Write 1 as $\frac{8}{8}$. Then $\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$.
17. Write 1 as $\frac{3}{3}$. Then $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$.
18. Subtract the tops: $80 - 30 = 50$, giving $\frac{50}{100}$, which simplifies to $\frac{1}{2}$.
19. Subtract the tops: $11 - 3 = 8$, giving $\frac{8}{12}$, which simplifies to $\frac{2}{3}$.
20. Work left to right: $9 - 4 - 1 = 4$, giving $\frac{4}{10}$, which simplifies to $\frac{2}{5}$.
21. Subtract the tops: $7 - 3 = 4$, giving $\frac{4}{8}$. Simplify by dividing by 4 to get $\frac{1}{2}$.
22. Subtract the tops: $5 - 1 = 4$, giving $\frac{4}{6}$. Simplify by dividing by 2 to get $\frac{2}{3}$.
23. Write the whole garden as $\frac{10}{10}$. Then $\frac{10}{10} - \frac{3}{10} = \frac{7}{10}$.
24. Subtract the tops: $11 - 5 = 6$, giving $\frac{6}{12}$. Simplify by dividing by 6 to get $\frac{1}{2}$.

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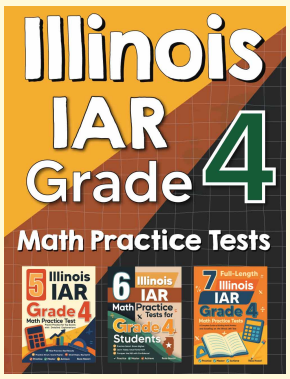

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