Adding Fractions with Like Denominators

SKILLS

Add the fractions. Write each answer in simplest form.

1. \( \frac{1}{8} + \frac{5}{8} = \)
2. \( \frac{3}{7} + \frac{2}{7} = \)
3. \( \frac{7}{10} + \frac{2}{10} = \)
4. \( \frac{2}{5} + \frac{2}{5} = \)
5. \( \frac{1}{9} + \frac{4}{9} = \)
6. \( \frac{5}{11} + \frac{3}{11} = \)
7. \( \frac{4}{13} + \frac{5}{13} = \)
8. \( \frac{1}{3} + \frac{1}{3} = \)
9. \( \frac{3}{8} + \frac{4}{8} = \)
10. \( \frac{7}{11} + \frac{2}{11} = \)
11. \( \frac{3}{10} + \frac{1}{10} = \)
12. \( \frac{7}{12} + \frac{1}{12} = \)
13. \( \frac{2}{4} + \frac{1}{4} = \)
14. \( \frac{1}{6} + \frac{4}{6} = \)
15. \( \frac{5}{8} + \frac{2}{8} = \)
16. \( \frac{6}{9} + \frac{4}{9} = \)
17. \( \frac{3}{8} + \frac{1}{8} = \)
18. \( \frac{2}{5} + \frac{1}{5} = \)
19. \( \frac{4}{9} + \frac{4}{9} = \)
20. \( \frac{1}{10} + \frac{2}{10} = \)
21. \( \frac{1}{8} + \frac{3}{8} = \)
22. \( \frac{3}{7} + \frac{3}{7} = \)
23. \( \frac{5}{12} + \frac{4}{12} = \)
24. \( \frac{7}{13} + \frac{8}{13} = \)

To add three fractions, add the numerators together,

\( \frac{2}{6} + \frac{2}{6} + \frac{1}{6} = \frac{5}{6} \)

2 + 2 + 1 = 5, so the sum is \( \frac{5}{6} \).

25. \( \frac{2}{10} + \frac{3}{10} + \frac{1}{10} = \)
26. \( \frac{5}{12} + \frac{1}{12} + \frac{3}{12} = \)

27. \( \frac{2}{15} + \frac{4}{15} + \frac{7}{15} = \)
28. \( \frac{3}{14} + \frac{2}{14} + \frac{7}{14} = \)
Adding Fractions with Unlike Denominators

SKILLS

Rewrite fractions using same denominator.
Write numerators as a sum over the same denominator.
Find the sum.
Simplify.

Add the fractions.

1. \( \frac{1}{3} + \frac{1}{6} = \)

2. \( \frac{3}{8} + \frac{1}{4} = \)

3. \( \frac{1}{4} + \frac{7}{12} = \)

4. \( \frac{3}{4} + \frac{1}{8} = \)

5. \( \frac{5}{12} + \frac{1}{8} = \)

6. \( \frac{1}{2} + \frac{3}{8} = \)

7. \( \frac{4}{9} + \frac{1}{3} = \)

8. \( \frac{5}{6} + \frac{1}{12} = \)

9. \( \frac{5}{12} + \frac{1}{3} = \)

10. \( \frac{3}{5} + \frac{2}{15} = \)

11. \( \frac{1}{10} + \frac{2}{5} = \)

12. \( \frac{3}{10} + \frac{1}{5} = \)

Find each sum.

13. \( \frac{2}{5} \quad + \quad \frac{3}{10} = \)

14. \( \frac{2}{3} \quad + \quad \frac{1}{6} = \)

15. \( \frac{5}{8} \quad + \quad \frac{1}{4} = \)

16. \( \frac{2}{3} \quad + \quad \frac{1}{12} = \)

17. \( \frac{2}{3} \quad + \quad \frac{1}{9} = \)

18. \( \frac{4}{15} \quad + \quad \frac{2}{5} = \)

19. \( \frac{3}{7} \quad + \quad \frac{3}{14} = \)

20. \( \frac{1}{2} \quad + \quad \frac{1}{4} = \)
Adding Mixed Numbers with Unlike Denominators

**SKILLS**

Round each number to the nearest $\frac{1}{2}$ or whole number.

1. $1\frac{1}{8} = \underline{\hspace{2cm}}$
2. $3\frac{4}{5} = \underline{\hspace{2cm}}$
3. $2\frac{1}{8} = \underline{\hspace{2cm}}$
4. $5\frac{7}{8} = \underline{\hspace{2cm}}$

Estimate each sum, then find the actual sum.

5. $4\frac{5}{12} + 2\frac{1}{6}$

6. $5\frac{1}{6} + 2\frac{1}{2}$

7. $5\frac{1}{6} + 3\frac{1}{3}$

8. $1\frac{5}{9} + 2\frac{1}{3}$

Add the mixed numbers.

9. $2\frac{2}{3} + 2\frac{5}{9} = \underline{\hspace{2cm}}$
10. $3\frac{1}{2} + 2\frac{1}{8} = \underline{\hspace{2cm}}$

11. $1\frac{2}{3} + 1\frac{2}{15} = \underline{\hspace{2cm}}$
12. $1\frac{5}{12} + 3\frac{1}{4} = \underline{\hspace{2cm}}$

13. $5\frac{3}{4} + 1\frac{1}{12} = \underline{\hspace{2cm}}$
14. $2\frac{3}{8} + 2\frac{5}{16} = \underline{\hspace{2cm}}$

15. $3\frac{1}{2} + 1\frac{1}{4} = \underline{\hspace{2cm}}$
16. $2\frac{2}{8} + 1\frac{4}{15} = \underline{\hspace{2cm}}$

17. $1\frac{3}{10} + 2\frac{2}{5} = \underline{\hspace{2cm}}$
18. $1\frac{1}{3} + 1\frac{1}{9} = \underline{\hspace{2cm}}$

19. $2\frac{1}{2} + 4\frac{3}{8} = \underline{\hspace{2cm}}$
20. $1\frac{5}{8} + 1\frac{1}{4} = \underline{\hspace{2cm}}$
Using the LCD to Add Fractions

Rewrite each pair of fractions with the same denominator, then find the sum.

1. \( \frac{3}{4} = \) ____________  
   Multiples of 4: ____________
   \(+ \frac{2}{3} = \) ____________  
   Multiples of 3: ____________

2. \( \frac{5}{6} = \) ____________  
   Multiples of 6: ____________
   \(+ \frac{1}{4} = \) ____________  
   Multiples of 4: ____________

3. \( \frac{1}{5} = \) ____________  
   Multiples of 5: ____________
   \(+ \frac{1}{2} = \) ____________  
   Multiples of 2: ____________

Find each sum. Write each answer in simplest form.

4. \( \frac{3}{4} \) ____________  
   \(+ \frac{1}{6} \) ____________

5. \( \frac{5}{6} \) ____________  
   \(+ \frac{5}{8} \) ____________

6. \( \frac{5}{6} \) ____________  
   \(+ \frac{3}{10} \) ____________

7. \( \frac{5}{6} \) ____________  
   \(+ \frac{4}{9} \) ____________

8. \( \frac{7}{10} \) ____________  
   \(+ \frac{5}{6} \) ____________

9. \( \frac{9}{10} \) ____________  
   \(+ \frac{7}{8} \) ____________
Using the LCD to Add Mixed Numbers

SKILLS

Add each set of mixed numbers. Write your answer in simplest form if necessary. An example is given.

First: Find common denominators.

\[
\begin{align*}
\frac{1}{2} &= \frac{1 \times 5}{2 \times 5} = \frac{5}{10} \\
\frac{4}{5} &= \frac{4 \times 2}{5 \times 2} = \frac{8}{10}
\end{align*}
\]

1. Add \(3\frac{3}{4}\) and \(2\frac{5}{6}\).

\[
\begin{align*}
\frac{3}{4} &= \\
\frac{5}{6} &=
\end{align*}
\]

2. Add \(5\frac{1}{6} + 4\frac{1}{3}\).

\[
\begin{align*}
\frac{1}{6} &= \\
\frac{1}{3} &=
\end{align*}
\]

3. Add \(2\frac{3}{4} + 4\frac{1}{2}\).

\[
\begin{align*}
\frac{3}{4} &= \\
\frac{1}{2} &=
\end{align*}
\]

4. Add \(3\frac{1}{4} + 1\frac{3}{10}\).

\[
\begin{align*}
\frac{1}{4} &= \\
\frac{3}{10} &=
\end{align*}
\]

5. Add \(1\frac{1}{2} + 2\frac{5}{6}\).

\[
\begin{align*}
\frac{1}{2} &= \\
\frac{5}{6} &=
\end{align*}
\]
Subtracting Mixed Numbers with Like Denominators

Find each difference using the given models. Write each answer in simplest form.

1. \(2 \frac{7}{10} - 1 \frac{4}{10} = \)

2. \(3 \frac{3}{4} - 1 \frac{1}{4} = \)

Find each difference. Write each answer in simplest form.

3. \(2 \frac{2}{7} - 2 \frac{1}{7} = \)

4. \(3 \frac{2}{9} - 2 \frac{1}{9} = \)

5. \(6 \frac{2}{8} - 3 \frac{1}{8} = \)

6. \(4 \frac{10}{11} - 4 \frac{1}{11} = \)

7. \(2 \frac{6}{9} - 1 \frac{3}{9} = \)

8. \(4 \frac{1}{3} - 3 \frac{1}{3} = \)

9. \(3 \frac{7}{8} - 3 \frac{5}{8} = \)

10. \(2 \frac{7}{8} - 1 \frac{4}{7} = \)

11. \(3 \frac{4}{13} - 1 \frac{1}{13} = \)

12. \(2 \frac{9}{11} - 1 \frac{5}{11} = \)

13. \(3 \frac{3}{7} - 1 \frac{4}{7} = \)

14. \(7 \frac{1}{2} - 5 \frac{1}{2} = \)

15. \(4 \frac{2}{9} - 2 \frac{1}{9} = \)

16. \(4 \frac{3}{7} - 1 \frac{1}{7} = \)

17. \(4 \frac{1}{12} - 2 \frac{6}{12} = \)

18. \(4 \frac{5}{8} - 3 \frac{1}{8} = \)

19. \(5 \frac{4}{7} - 2 \frac{1}{7} = \)

20. \(4 \frac{13}{13} - 1 \frac{5}{13} = \)

21. \(6 \frac{7}{9} - 2 \frac{3}{9} = \)

22. \(5 \frac{5}{6} - 1 \frac{2}{6} = \)

23. \(8 \frac{7}{8} - 2 \frac{3}{8} = \)

24. \(7 \frac{8}{11} - 2 \frac{5}{11} = \)

25. \(5 \frac{5}{7} - 2 \frac{2}{7} = \)

26. \(12 \frac{15}{16} - 9 \frac{9}{16} = \)

27. \(15 \frac{17}{20} - 3 \frac{7}{20} = \)

28. \(26 \frac{9}{10} - 25 \frac{4}{10} = \)
Subtracting Fractions with Unlike Denominators

SKILLS

Rewrite fractions using same denominator.
Find the difference of the numerators.
Simplify.

Find each difference. Write each answer in simplest form.

1. \( \frac{1}{2} - \frac{3}{10} = \)  
2. \( \frac{2}{3} - \frac{2}{5} = \)  
3. \( \frac{7}{8} - \frac{1}{2} = \)

4. \( \frac{7}{10} - \frac{1}{3} = \)  
5. \( \frac{2}{5} - \frac{4}{9} = \)  
6. \( \frac{7}{8} - \frac{3}{4} = \)

7. \( \frac{1}{3} - \frac{1}{6} = \)  
8. \( \frac{11}{12} - \frac{2}{3} = \)  
9. \( \frac{3}{4} - \frac{3}{8} = \)

10. \( \frac{5}{12} - \frac{1}{4} = \)  
11. \( \frac{5}{8} - \frac{1}{4} = \)  
12. \( \frac{2}{3} - \frac{1}{6} = \)

Subtract. Write each answer in simplest form.

13. \( \frac{2}{3} - \frac{1}{6} = \)  
14. \( \frac{13}{16} - \frac{3}{8} = \)

15. \( \frac{7}{9} - \frac{1}{3} = \)  
16. \( \frac{14}{15} - \frac{2}{5} = \)

17. \( \frac{3}{4} - \frac{1}{8} = \)  
18. \( \frac{9}{10} - \frac{3}{8} = \)

19. \( \frac{3}{4} - \frac{5}{12} = \)  
20. \( \frac{11}{12} - \frac{1}{6} = \)

21. \( \frac{9}{11} - \frac{5}{11} = \)  
22. \( \frac{7}{8} - \frac{1}{4} = \)  
23. \( \frac{6}{9} - \frac{1}{3} = \)  
24. \( \frac{15}{18} = \frac{3}{2} \)
Using the LCD to Subtract Fractions

Rewrite each pair of fractions with the same denominator, then subtract.

1. \( \frac{3}{9} = \) _______
   Multiples of 9: ______________________
   \(-\frac{5}{6} = -\) _______
   Multiples of 6: ______________________
   
   LCD = _______

2. \( \frac{3}{4} = \) _______
   Multiples of 4: ______________________
   \(-\frac{1}{6} = -\) _______
   Multiples of 6: ______________________
   
   LCD = _______

3. \( \frac{3}{10} = \) _______
   Multiples of 10: ______________________
   \(-\frac{1}{4} = -\) _______
   Multiples of 4: ______________________
   
   LCD = _______

Subtract. Write each answer in simplest form.

4. \( \frac{5}{9} - \frac{1}{6} = \)

5. \( \frac{11}{12} - \frac{2}{9} = \)

6. \( \frac{2}{3} - \frac{2}{5} = \)

7. \( \frac{5}{7} - \frac{1}{6} = \)

8. \( \frac{11}{14} - \frac{5}{8} = \)

9. \( \frac{4}{5} - \frac{1}{2} = \)

10. \( \frac{7}{10} - \frac{3}{8} = \)

11. \( \frac{5}{6} - \frac{4}{15} = \)

12. \( \frac{11}{12} - \frac{3}{8} = \)

13. \( \frac{7}{8} - \frac{1}{3} = \)

14. \( \frac{2}{3} - \frac{1}{5} = \)

15. \( \frac{5}{6} - \frac{2}{9} = \)
Subtracting Fractions and Mixed Numbers from Whole Numbers

SKILLS

Subtract. Write each answer in simplest form.

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

21. Which number equals $6\frac{1}{5}$?
   a. $5\frac{11}{5}$
   b. $5\frac{7}{5}$
   c. $5\frac{5}{5}$
   d. $6\frac{6}{5}$

22. Which number equals $4\frac{2}{7}$?
   a. $4\frac{8}{7}$
   b. $3\frac{12}{7}$
   c. $3\frac{9}{7}$
   d. $3\frac{7}{7}$

23. Which number equals $3\frac{9}{8}$?
   a. $2\frac{7}{4}$
   b. $2\frac{13}{4}$
   c. $3\frac{7}{4}$
   d. $2\frac{9}{4}$

24. Which number equals $7$?
   a. $6\frac{1}{7}$
   b. $6\frac{7}{6}$
   c. $7\frac{10}{9}$
   d. $6\frac{9}{9}$

25. Which number equals $2\frac{3}{10}$?
   a. $1\frac{5}{10}$
   b. $1\frac{13}{10}$
   c. $2\frac{13}{10}$
   d. $1\frac{15}{10}$

26. Which number equals $3\frac{1}{6}$?
   a. $2\frac{4}{6}$
   b. $2\frac{11}{6}$
   c. $2\frac{7}{6}$
   d. $3\frac{11}{6}$
Using the LCD to Subtract Mixed Numbers

SKILLS

Subtract. Write each answer in simplest form.

1. $3\frac{1}{4} - 1\frac{5}{6}$
2. $4\frac{1}{2} - 2\frac{5}{7}$
3. $7\frac{1}{6} - 3\frac{3}{4}$
4. $7\frac{1}{2} - 1\frac{5}{8}$

5. $6\frac{1}{6} - 5\frac{1}{6}$
6. $9\frac{5}{8} - 4\frac{5}{8}$
7. $8\frac{2}{5} - 2\frac{13}{15}$
8. $12\frac{1}{8} - 9\frac{1}{4}$

9. $2\frac{1}{5} - 1\frac{4}{15}$
10. $5\frac{1}{3} - 2\frac{7}{9}$
11. $5\frac{5}{12} - 3\frac{7}{8}$
12. $4\frac{1}{2} - 2\frac{5}{9}$

13. $6 - 1\frac{2}{3}$
14. $9\frac{1}{7} - 2\frac{3}{5}$
15. $2\frac{1}{2} - \frac{3}{4}$
16. $5\frac{1}{9} - 1\frac{2}{3}$

17. $8\frac{1}{6} - 4\frac{5}{24}$
18. $4\frac{3}{10} - 1\frac{4}{9}$
19. $5\frac{3}{8} - 3\frac{7}{12}$
20. $9\frac{3}{5} - 6\frac{8}{15}$