NAME _____ DATE _____ PERIOD _____

Lesson 3 Reteach

Add and Subtract Like Fractions

Like fractions are fractions that have the same denominator. To add or subtract like fractions, add or subtract the numerators and write the result over the denominator.

Simplify if necessary.

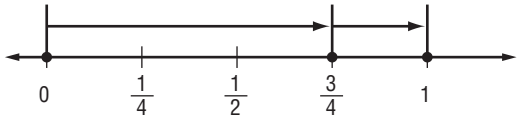
Example 1

Find $\frac{3}{4} + \frac{1}{4}$. Write in simplest form.

$\frac{3}{4} + \frac{1}{4} = \frac{3+1}{4}$ Add the numerators.

$= \frac{4}{4}$ Write the sum over the denominator.

$= 1$ Simplify.

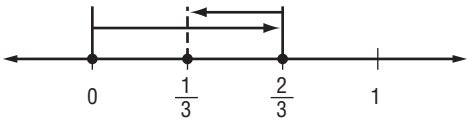


Example 2

Find $\frac{2}{3} - \frac{1}{3}$. Write in simplest form.

$\frac{2}{3} - \frac{1}{3} = \frac{2-1}{3}$ Subtract the numerators.

$= \frac{1}{3}$ Write the difference over the denominator.



Exercises

Add or subtract. Write in simplest form.

1. $\frac{5}{8} + \frac{1}{8}$

2. $\frac{7}{9} - \frac{2}{9}$

3. $-\frac{1}{4} + \frac{3}{4}$

4. $\frac{7}{8} - \frac{5}{8}$

5. $\frac{5}{9} + \frac{5}{9}$

6. $-\frac{3}{8} - \frac{1}{8}$

7. $\frac{3}{10} + \frac{1}{10}$

8. $\frac{2}{5} - \frac{1}{5}$

9. $\frac{7}{15} + \frac{4}{15}$

10. $\frac{7}{9} - \frac{8}{9}$

NAME _____ DATE _____ PERIOD _____

Lesson 3 Skills Practice

Add and Subtract Like Fractions

Add or subtract. Write in simplest form.

1. $\frac{3}{8} + \frac{3}{8}$

2. $\frac{7}{10} - \frac{5}{10}$

3. $\frac{9}{10} + \frac{3}{10}$

4. $\frac{4}{7} - \frac{2}{7}$

5. $\frac{2}{3} + \frac{2}{3}$

6. $\frac{5}{9} - \frac{2}{9}$

7. $\frac{8}{15} - \frac{1}{15}$

8. $\frac{5}{12} + \frac{5}{12}$

9. $\frac{7}{10} - \frac{3}{10}$

10. $\frac{7}{16} + \frac{5}{16}$

11. $\frac{19}{20} - \frac{3}{20}$

12. $-\frac{5}{9} + \frac{7}{9}$

13. $-\frac{4}{9} - \frac{1}{9}$

14. $\frac{2}{3} + \frac{1}{3}$

15. $-\frac{3}{4} - \frac{2}{4}$

16. $\frac{7}{8} - \frac{5}{8}$

17. $\frac{8}{9} - \frac{5}{9}$

18. $-\frac{5}{12} - \left(-\frac{3}{12}\right)$

19. $\frac{7}{9} + \frac{2}{9}$

20. $\frac{3}{5} + \frac{4}{5}$

21. $-\frac{11}{12} - \frac{5}{12}$

22. $\frac{5}{6} + \frac{4}{6}$

23. $\frac{3}{8} + \frac{5}{8}$

24. $-\frac{7}{16} - \left(-\frac{3}{16}\right)$

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Lesson 4 Reteach

Add and Subtract Unlike Fractions

To add or subtract fractions with different denominators,

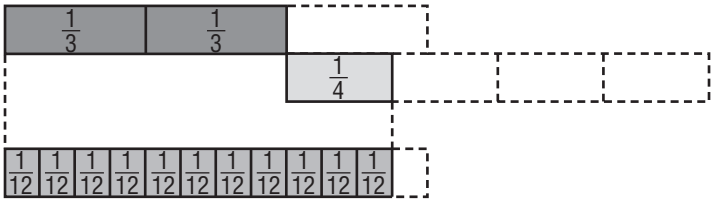
- Rename the fractions using the least common denominator (LCD).
- Add or subtract as with like fractions.
- If necessary, simplify the sum or difference.

Example

Find $\frac{2}{3} + \frac{1}{4}$.

Method 1 Use a model.

$$\begin{array}{r} \frac{2}{3} \\ +\ \frac{1}{4} \\ \hline \frac{11}{12} \end{array}$$



Method 2 Use the LCD.

$\frac{2}{3} + \frac{1}{4} = \frac{2}{3} \cdot \frac{4}{4} + \frac{1}{4} \cdot \frac{3}{3}$ Rename using the LCD, 12.

$= \frac{8}{12} + \frac{3}{12}$ or $\frac{11}{12}$ Add the fractions.

Exercises

Add or subtract. Write in simplest form.

1. $\frac{1}{2} + \frac{3}{4}$

2. $\frac{3}{8} - \frac{1}{2}$

3. $\frac{7}{15} + \left(-\frac{5}{6}\right)$

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

5. $\frac{5}{9} + \left(-\frac{5}{12}\right)$

6. $\frac{11}{12} - \frac{3}{4}$

7. $\frac{7}{8} - \left(-\frac{1}{3}\right)$

8. $\frac{7}{9} - \frac{1}{2}$

9. $\frac{3}{10} + \frac{7}{12}$

10. $\frac{3}{5} + \frac{2}{3}$

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Lesson 4 Skills Practice

Add and Subtract Unlike Fractions

Add or subtract. Write in simplest form.

1. $\frac{8}{15} - \frac{1}{5}$

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

3. $\frac{3}{5} - \frac{3}{10}$

4. $\frac{7}{16} + \frac{3}{8}$

5. $\frac{19}{20} - \frac{3}{10}$

6. $\frac{4}{9} - \frac{1}{12}$

7. $\frac{2}{3} + \frac{3}{7}$

8. $\frac{3}{4} + \frac{1}{7}$

9. $\frac{7}{8} - \frac{2}{3}$

10. $\frac{8}{9} - \frac{5}{6}$

11. $\frac{5}{12} - \frac{3}{10}$

12. $\frac{7}{9} + \frac{2}{3}$

13. $\frac{3}{5} + \frac{4}{7}$

14. $\frac{11}{12} - \frac{1}{2}$

15. $\frac{3}{4} - \left(-\frac{1}{2}\right)$

16. $-\frac{5}{6} + \frac{1}{4}$

17. $-\frac{2}{3} - \left(-\frac{3}{4}\right)$

18. $\frac{7}{8} + \frac{1}{12}$

19. $-\frac{3}{10} + \frac{5}{20}$

20. $\frac{7}{12} - \left(-\frac{1}{3}\right)$

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Lesson 5 Reteach

Add and Subtract Mixed Numbers

To add or subtract mixed numbers:

- Add or subtract the fractions. Rename using the LCD if necessary.
- Then, add or subtract the whole numbers.
- Simplify if necessary.

Example 1

Find $6\frac{1}{10} + 2\frac{3}{10}$. Write in simplest form.

$$\begin{array}{r} 6\frac{1}{10} \\ +\ 2\frac{3}{10} \\ \hline 8\frac{4}{10} \text{ or } 8\frac{2}{5} \end{array}$$

Add the whole numbers and the fractions separately.

Simplify.

Example 2

Find $8\frac{2}{3} - 6\frac{1}{2}$.

$$\begin{array}{r} 8\frac{2}{3} \rightarrow 8\frac{4}{6} \\ -6\frac{1}{2} \rightarrow 6\frac{3}{6} \\ \hline 2\frac{1}{6} \end{array}$$

Rename the fractions using the LCD.

Subtract.

Example 3

Find $4\frac{1}{4} - 2\frac{3}{5}$.

$$\begin{array}{r} 4\frac{1}{4} \rightarrow 4\frac{5}{20} \rightarrow 3\frac{25}{20} \\ -2\frac{3}{5} \rightarrow 2\frac{12}{20} \rightarrow 2\frac{12}{20} \\ \hline 1\frac{13}{20} \end{array}$$

Rename $4\frac{5}{20}$ as $3\frac{25}{20}$.

Subtract the whole numbers and then the fractions.

Exercises

Add or subtract. Write in simplest form.

1. $1\frac{3}{5} + 4\frac{1}{5}$

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

3. $3\frac{2}{3} + 2\frac{1}{2}$

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

5. $8 - 6\frac{7}{8}$

6. $1\frac{4}{5} + \frac{3}{10}$

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Lesson 5 Skills Practice

Add and Subtract Mixed Numbers

Add or subtract. Write in simplest form.

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

2. $6\frac{7}{10} + 12\frac{1}{10}$

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

4. $3\frac{1}{2} - 2\frac{1}{2}$

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

6. $8\frac{5}{6} + 9\frac{5}{6}$

7. $2\frac{1}{2} - 1\frac{1}{4}$

8. $3\frac{7}{8} + 5\frac{3}{4}$

9. $2\frac{5}{6} - \frac{7}{8}$

10. $8\frac{1}{5} + 3\frac{7}{10}$

11. $8\frac{4}{5} - 2\frac{9}{10}$

12. $3\frac{1}{4} - 2\frac{5}{6}$

13. $4\frac{3}{5} + 5\frac{1}{2}$

14. $10 - 7\frac{7}{8}$

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Lesson 3 Reteach

Add and Subtract Like Fractions

Like fractions are fractions that have the same denominator. To add or subtract like fractions, add or subtract the numerators and write the result over the denominator.

Simplify if necessary.

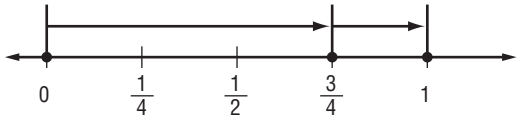
Example 1

Find $\frac{3}{4} + \frac{1}{4}$. Write in simplest form.

$\frac{3}{4} + \frac{1}{4} = \frac{3+1}{4}$ Add the numerators.

$= \frac{4}{4}$ Write the sum over the denominator.

$= 1$ Simplify.

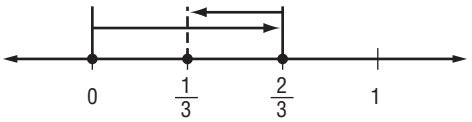


Example 2

Find $\frac{2}{3} - \frac{1}{3}$. Write in simplest form.

$\frac{2}{3} - \frac{1}{3} = \frac{2-1}{3}$ Subtract the numerators.

$= \frac{1}{3}$ Write the difference over the denominator.



Exercises

Add or subtract. Write in simplest form.

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

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Lesson 3 Skills Practice

Add and Subtract Like Fractions

Add or subtract. Write in simplest form.

1. $\frac{3}{8} + \frac{3}{8}$ **$\frac{3}{4}$**

2. $\frac{7}{10} - \frac{5}{10}$ **$\frac{1}{5}$**

3. $\frac{9}{10} + \frac{3}{10}$ **$1\frac{1}{5}$**

4. $\frac{4}{7} - \frac{2}{7}$ **$\frac{2}{7}$**

5. $\frac{2}{3} + \frac{2}{3}$ **$1\frac{1}{3}$**

6. $\frac{5}{9} - \frac{2}{9}$ **$\frac{1}{3}$**

7. $\frac{8}{15} - \frac{1}{15}$ **$\frac{7}{15}$**

8. $\frac{5}{12} + \frac{5}{12}$ **$\frac{5}{6}$**

9. $\frac{7}{10} - \frac{3}{10}$ **$\frac{2}{5}$**

10. $\frac{7}{16} + \frac{5}{16}$ **$\frac{3}{4}$**

11. $\frac{19}{20} - \frac{3}{20}$ **$\frac{4}{5}$**

12. $-\frac{5}{9} + \frac{7}{9}$ **$\frac{2}{9}$**

13. $-\frac{4}{9} - \frac{1}{9}$ **$-\frac{5}{9}$**

14. $\frac{2}{3} + \frac{1}{3}$ **1**

15. $-\frac{3}{4} - \frac{2}{4}$ **$-1\frac{1}{4}$**

16. $\frac{7}{8} - \frac{5}{8}$ **$\frac{1}{4}$**

17. $\frac{8}{9} - \frac{5}{9}$ **$\frac{1}{3}$**

18. $-\frac{5}{12} - \left(-\frac{3}{12}\right)$ **$-\frac{1}{6}$**

19. $\frac{7}{9} + \frac{2}{9}$ **1**

20. $\frac{3}{5} + \frac{4}{5}$ **$1\frac{2}{5}$**

21. $-\frac{11}{12} - \frac{5}{12}$ **$-1\frac{1}{3}$**

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

23. $\frac{3}{8} + \frac{5}{8}$ **1**

24. $-\frac{7}{16} - \left(-\frac{3}{16}\right)$ **$-\frac{1}{4}$**

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Lesson 4 Reteach

Add and Subtract Unlike Fractions

To add or subtract fractions with different denominators,

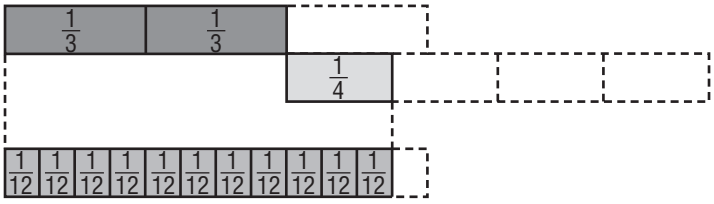
- Rename the fractions using the least common denominator (LCD).
- Add or subtract as with like fractions.
- If necessary, simplify the sum or difference.

Example

Find $\frac{2}{3} + \frac{1}{4}$.

Method 1 Use a model.

$$\begin{array}{r} \frac{2}{3} \\ +\ \frac{1}{4} \\ \hline \frac{11}{12} \end{array}$$



Method 2 Use the LCD.

$\frac{2}{3} + \frac{1}{4} = \frac{2}{3} \cdot \frac{4}{4} + \frac{1}{4} \cdot \frac{3}{3}$ Rename using the LCD, 12.

$= \frac{8}{12} + \frac{3}{12}$ or $\frac{11}{12}$ Add the fractions.

Exercises

Add or subtract. Write in simplest form.

1. $\frac{1}{2} + \frac{3}{4}$ $1\frac{1}{4}$
2. $\frac{3}{8} - \frac{1}{2}$ $-\frac{1}{8}$
3. $\frac{7}{15} + \left(-\frac{5}{6}\right)$ $-\frac{11}{30}$
4. $\frac{2}{5} - \frac{1}{3}$ $\frac{1}{15}$
5. $\frac{5}{9} + \left(-\frac{5}{12}\right)$ $\frac{5}{36}$
6. $\frac{11}{12} - \frac{3}{4}$ $\frac{1}{6}$
7. $\frac{7}{8} - \left(-\frac{1}{3}\right)$ $1\frac{5}{24}$
8. $\frac{7}{9} - \frac{1}{2}$ $\frac{5}{18}$
9. $\frac{3}{10} + \frac{7}{12}$ $\frac{53}{60}$
10. $\frac{3}{5} + \frac{2}{3}$ $1\frac{4}{15}$

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Lesson 4 Skills Practice

Add and Subtract Unlike Fractions

Add or subtract. Write in simplest form.

1. $\frac{8}{15} - \frac{1}{5}$ **$\frac{1}{3}$**

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

3. $\frac{3}{5} - \frac{3}{10}$ **$\frac{3}{10}$**

4. $\frac{7}{16} + \frac{3}{8}$ **$\frac{13}{16}$**

5. $\frac{19}{20} - \frac{3}{10}$ **$\frac{13}{20}$**

6. $\frac{4}{9} - \frac{1}{12}$ **$\frac{13}{36}$**

7. $\frac{2}{3} + \frac{3}{7}$ **$1\frac{2}{21}$**

8. $\frac{3}{4} + \frac{1}{7}$ **$\frac{25}{28}$**

9. $\frac{7}{8} - \frac{2}{3}$ **$\frac{5}{24}$**

10. $\frac{8}{9} - \frac{5}{6}$ **$\frac{1}{18}$**

11. $\frac{5}{12} - \frac{3}{10}$ **$\frac{7}{60}$**

12. $\frac{7}{9} + \frac{2}{3}$ **$1\frac{4}{9}$**

13. $\frac{3}{5} + \frac{4}{7}$ **$1\frac{6}{35}$**

14. $\frac{11}{12} - \frac{1}{2}$ **$\frac{5}{12}$**

15. $\frac{3}{4} - \left(-\frac{1}{2}\right)$ **$1\frac{1}{4}$**

16. $-\frac{5}{6} + \frac{1}{4}$ **$-\frac{7}{12}$**

17. $-\frac{2}{3} - \left(-\frac{3}{4}\right)$ **$\frac{1}{12}$**

18. $\frac{7}{8} + \frac{1}{12}$ **$\frac{23}{24}$**

19. $-\frac{3}{10} + \frac{5}{20}$ **$-\frac{1}{20}$**

20. $\frac{7}{12} - \left(-\frac{1}{3}\right)$ **$\frac{11}{12}$**

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Lesson 5 Reteach

Add and Subtract Mixed Numbers

To add or subtract mixed numbers:

- Add or subtract the fractions. Rename using the LCD if necessary.
- Then, add or subtract the whole numbers.
- Simplify if necessary.

Example 1

Find $6\frac{1}{10} + 2\frac{3}{10}$. Write in simplest form.

$$\begin{array}{r} 6\frac{1}{10} \\ +\ 2\frac{3}{10} \\ \hline 8\frac{4}{10} \text{ or } 8\frac{2}{5} \end{array}$$

Add the whole numbers and the fractions separately.

Simplify.

Example 2

Find $8\frac{2}{3} - 6\frac{1}{2}$.

$$\begin{array}{r} 8\frac{2}{3} \rightarrow 8\frac{4}{6} \\ -6\frac{1}{2} \rightarrow 6\frac{3}{6} \\ \hline 2\frac{1}{6} \end{array}$$

Rename the fractions using the LCD.

Subtract.

Example 3

Find $4\frac{1}{4} - 2\frac{3}{5}$.

$$\begin{array}{r} 4\frac{1}{4} \rightarrow 4\frac{5}{20} \rightarrow 3\frac{25}{20} \\ -2\frac{3}{5} \rightarrow 2\frac{12}{20} \rightarrow 2\frac{12}{20} \\ \hline 1\frac{13}{20} \end{array}$$

Rename $4\frac{5}{20}$ as $3\frac{25}{20}$.

Subtract the whole numbers and then the fractions.

Exercises

Add or subtract. Write in simplest form.

1. $1\frac{3}{5} + 4\frac{1}{5}$ **$5\frac{4}{5}$**
2. $2\frac{5}{6} - 1\frac{1}{6}$ **$1\frac{2}{3}$**
3. $3\frac{2}{3} + 2\frac{1}{2}$ **$6\frac{1}{6}$**
4. $5\frac{3}{4} - 3\frac{1}{6}$ **$2\frac{7}{12}$**
5. $8 - 6\frac{7}{8}$ **$1\frac{1}{8}$**
6. $1\frac{4}{5} + \frac{3}{10}$ **$2\frac{1}{10}$**

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Lesson 5 Skills Practice

Add and Subtract Mixed Numbers

Add or subtract. Write in simplest form.

1. $3\frac{2}{5} + 1\frac{1}{5}$ **$4\frac{3}{5}$**

2. $6\frac{7}{10} + 12\frac{1}{10}$ **$18\frac{4}{5}$**

3. $5\frac{3}{8} - 4\frac{1}{8}$ **$1\frac{1}{4}$**

4. $3\frac{1}{2} - 2\frac{1}{2}$ **1**

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

6. $8\frac{5}{6} + 9\frac{5}{6}$ **$18\frac{2}{3}$**

7. $2\frac{1}{2} - 1\frac{1}{4}$ **$1\frac{1}{4}$**

8. $3\frac{7}{8} + 5\frac{3}{4}$ **$9\frac{5}{8}$**

9. $2\frac{5}{6} - \frac{7}{8}$ **$1\frac{23}{24}$**

10. $8\frac{1}{5} + 3\frac{7}{10}$ **$11\frac{9}{10}$**

11. $8\frac{4}{5} - 2\frac{9}{10}$ **$5\frac{9}{10}$**

12. $3\frac{1}{4} - 2\frac{5}{6}$ **$\frac{5}{12}$**

13. $4\frac{3}{5} + 5\frac{1}{2}$ **$10\frac{1}{10}$**

14. $10 - 7\frac{7}{8}$ **$2\frac{1}{8}$**