Name _____ Date _____ Class _____

LESSON 3-9

Reteach

Adding and Subtracting Mixed Numbers

You can write mixed numbers as improper fractions before adding.

Add: $4\frac{5}{8} + 2\frac{7}{8}$

- Write improper fractions.

  $4\frac{5}{8} = \frac{37}{8}$ and $2\frac{7}{8} = \frac{23}{8}$

- The denominators are the same. Add and simplify.

  $\frac{37}{8} + \frac{23}{8} = \frac{60}{8} = 7\frac{4}{8} = 7\frac{1}{2}$

Add: $1\frac{2}{5} + 3\frac{3}{4}$

- Write improper fractions.

  $1\frac{2}{5} = \frac{7}{5}$ and $3\frac{3}{4} = \frac{15}{4}$

- Find a common denominator. The LCD is 20.

  $\frac{7}{5} = \frac{28}{20}$ and $\frac{15}{4} = \frac{75}{20}$

- Add and simplify.

  $\frac{28}{20} + \frac{75}{20} = \frac{103}{20} = 5\frac{3}{20}$

Add. Write each answer in simplest form.

1. $4\frac{7}{10} + 2\frac{9}{10} = \frac{\quad}{10} + \frac{\quad}{10} = \frac{\quad}{10} = \frac{\quad}{10} = \quad -$

2. $2\frac{1}{2} + 1\frac{3}{8} = \frac{\quad}{2} + \frac{\quad}{8} = \frac{\quad}{8} + \frac{\quad}{8} = \frac{\quad}{8} = \frac{\quad}{8}$

3. $3\frac{1}{5} + 2\frac{1}{3} = \frac{\quad}{5} + \frac{\quad}{3} = \frac{\quad}{15} + \frac{\quad}{15} = \frac{\quad}{15} = \frac{\quad}{15}$

4. $1\frac{2}{7} + 5\frac{3}{7}$ _____

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

6. $4\frac{4}{9} + 2\frac{2}{3}$ _____

7. $2\frac{3}{5} + 3\frac{7}{10}$ _____

8. $2\frac{3}{4} + 1\frac{5}{6}$ _____

9. $4\frac{1}{3} + 2\frac{1}{2}$ _____

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Name _____ Date _____ Class _____

LESSON 3-9

Reteach

Adding and Subtracting Mixed Numbers (continued)

You can write whole numbers as fractions and mixed numbers as improper fractions before subtracting.

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

- Write 6 as a fraction and $2\frac{5}{9}$ as an improper fraction.

  $6 = \frac{6}{1}$ and $2\frac{5}{9} = \frac{23}{9}$

- Find a common denominator. The LCD is 9.

  $\frac{6}{1} = \frac{54}{9}$

- Subtract and simplify.

  $\frac{54}{9} - \frac{23}{9} = \frac{31}{9} = 3\frac{4}{9}$

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

- Write improper fractions.

  $4\frac{1}{4} = \frac{17}{4}$ and $1\frac{5}{6} = \frac{11}{6}$

- Find a common denominator. The LCD is 12.

  $\frac{17}{4} = \frac{51}{12}$ and $\frac{11}{6} = \frac{22}{12}$

- Subtract and simplify.

  $\frac{51}{12} - \frac{22}{12} = \frac{29}{12} = 2\frac{5}{12}$

Subtract. Write each answer in simplest form.

10. $6\frac{1}{4} - 1\frac{3}{4} = \frac{\quad}{4} - \frac{\quad}{4} = \frac{\quad}{4} = \frac{\quad}{4} = \frac{\quad}{\quad}$

11. $5 - 1\frac{2}{3} = \frac{5}{\quad} - \frac{\quad}{3} = \frac{\quad}{3} - \frac{\quad}{3} = \frac{\quad}{3} = \frac{\quad}{3}$

12. $5\frac{3}{4} - 4\frac{1}{8} = \frac{\quad}{4} - \frac{\quad}{8} = \frac{\quad}{8} - \frac{\quad}{8} = \frac{\quad}{8} = \frac{\quad}{8}$

13. $3\frac{1}{4} - 2\frac{5}{6} = \frac{\quad}{4} - \frac{\quad}{6} = \frac{\quad}{12} - \frac{\quad}{12} = \frac{\quad}{12}$

14. $8\frac{2}{5} - 6\frac{4}{5}$ _____

15. $5 - 3\frac{4}{7}$ _____

16. $10 - 5\frac{7}{10}$ _____

17. $7\frac{1}{2} - 6\frac{3}{10}$ _____

18. $2\frac{2}{3} - 1\frac{2}{5}$ _____

19. $5\frac{1}{2} - 3\frac{2}{3}$ _____

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LESSON 3-9

Practice C

Adding and Subtracting Mixed Numbers

Add or subtract. Write each answer in simplest form.

1. $3\frac{11}{21} + 2\frac{8}{21}$ — $5\frac{19}{21}$
2. $2\frac{5}{26} + 5\frac{11}{13}$ — $8\frac{1}{26}$
3. $4\frac{2}{11} + 1\frac{6}{22}$ — $5\frac{5}{11}$
4. $15\frac{16}{19} - 8\frac{7}{19}$ — $7\frac{9}{19}$
5. $9\frac{13}{25} - 7\frac{2}{5}$ — $2\frac{3}{25}$
6. $4\frac{11}{20} - 3\frac{3}{10}$ — $1\frac{1}{4}$
7. $7\frac{3}{5} + 8\frac{1}{8}$ — $15\frac{29}{40}$
8. $4\frac{2}{3} + 6\frac{3}{7}$ — $11\frac{2}{21}$
9. $9\frac{5}{12} + 3\frac{3}{8}$ — $12\frac{19}{24}$
10. $8\frac{5}{6} - 5\frac{3}{5}$ — $3\frac{7}{30}$
11. $7\frac{7}{12} - 4\frac{11}{15}$ — $2\frac{17}{20}$
12. $10\frac{2}{3} - 5\frac{13}{18}$ — $4\frac{17}{18}$
13. $3\frac{2}{5} + 4\frac{1}{3} - 6\frac{7}{10}$ — $1\frac{1}{30}$
14. $1\frac{1}{4} + 6\frac{7}{8} + 5\frac{5}{16}$ — $13\frac{7}{16}$
15. $-4\frac{1}{2} - 9\frac{5}{6} - 5\frac{3}{4}$ — $-20\frac{1}{12}$
16. $2\frac{1}{12} - 3\frac{2}{5} + 7\frac{4}{15}$ — $5\frac{19}{20}$
17. $1\frac{7}{8} + 2\frac{7}{20} - 1\frac{3}{10}$ — $2\frac{37}{40}$
18. $-6\frac{6}{7} - 3\frac{8}{35} - 1\frac{2}{5}$ — $-11\frac{17}{35}$

Compare. Write <, >, or =.

19. $11\frac{1}{5} - 5\frac{4}{5}$ [<] $7\frac{1}{3} - 1\frac{1}{2}$
20. $7\frac{2}{3} + 4\frac{1}{5}$ [<] $7\frac{5}{6} + 4\frac{2}{7}$
21. $18\frac{1}{2} - 3\frac{3}{4}$ [=] $7\frac{2}{3} + 7\frac{1}{12}$
22. $6\frac{1}{2} - 3\frac{1}{3}$ [>] $5\frac{1}{3} - 2\frac{1}{5}$

23. The men's indoor pole vault record was set in 1993 at $20\frac{1}{6}$ feet. The women's record was set in 2001 at $15\frac{5}{12}$ feet. How much higher is the men's record than the women's record? — $4\frac{3}{4}$ feet

24. Richard set a goal of running 10 miles per week. On Monday he ran $3\frac{3}{5}$ miles. On Friday he ran $3\frac{9}{10}$ miles. How much farther does he still have to run to meet his weekly goal? — $2\frac{1}{2}$ miles

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LESSON 3-9

Reteach

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  $\frac{7}{5} = \frac{28}{20}$ and $\frac{15}{4} = \frac{75}{20}$

- Add and simplify.

  $\frac{28}{20} + \frac{75}{20} = \frac{103}{20} = 5\frac{3}{20}$

Add. Write each answer in simplest form.

1. $4\frac{7}{10} + 2\frac{9}{10} = \frac{47}{10} + \frac{29}{10} = \frac{76}{10} = 7\frac{6}{10} = 7\frac{3}{5}$
2. $2\frac{1}{2} + 1\frac{3}{8} = \frac{5}{2} + \frac{11}{8} = \frac{20}{8} + \frac{11}{8} = \frac{31}{8} = 3\frac{7}{8}$
3. $3\frac{1}{5} + 2\frac{1}{3} = \frac{16}{5} + \frac{7}{3} = \frac{48}{15} + \frac{35}{15} = \frac{83}{15} = 5\frac{8}{15}$
4. $1\frac{2}{7} + 5\frac{3}{7}$ — $6\frac{5}{7}$
5. $5\frac{3}{8} + 3\frac{7}{8}$ — $9\frac{1}{4}$
6. $4\frac{4}{9} + 2\frac{2}{3}$ — $7\frac{1}{9}$
7. $2\frac{3}{5} + 3\frac{7}{10}$ — $6\frac{3}{10}$
8. $2\frac{3}{4} + 1\frac{5}{6}$ — $4\frac{7}{12}$
9. $4\frac{1}{3} + 2\frac{1}{2}$ — $6\frac{5}{6}$

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LESSON 3-9

Reteach

Adding and Subtracting Mixed Numbers (continued)

You can write whole numbers as fractions and mixed numbers as improper fractions before subtracting.

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- Find a common denominator. The LCD is 9.

  $\frac{6}{1} = \frac{54}{9}$

- Subtract and simplify.

  $\frac{54}{9} - \frac{23}{9} = \frac{31}{9} = 3\frac{4}{9}$

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

- Write improper fractions.

  $4\frac{1}{4} = \frac{17}{4}$ and $1\frac{5}{6} = \frac{11}{6}$

- Find a common denominator. The LCD is 12.

  $\frac{17}{4} = \frac{51}{12}$ and $\frac{11}{6} = \frac{22}{12}$

- Subtract and simplify.

  $\frac{51}{12} - \frac{22}{12} = \frac{29}{12} = 2\frac{5}{12}$

Subtract. Write each answer in simplest form.

10. $6\frac{1}{4} - 1\frac{3}{4} = \frac{25}{4} - \frac{7}{4} = \frac{18}{4} = 4\frac{2}{4} = 4\frac{1}{2}$
11. $5 - 1\frac{2}{3} = \frac{5}{1} - \frac{5}{3} = \frac{15}{3} - \frac{5}{3} = \frac{10}{3} = 3\frac{1}{3}$
12. $5\frac{3}{4} - 4\frac{1}{8} = \frac{23}{4} - \frac{33}{8} = \frac{46}{8} - \frac{33}{8} = \frac{13}{8} = 1\frac{5}{8}$
13. $3\frac{1}{4} - 2\frac{5}{6} = \frac{13}{4} - \frac{17}{6} = \frac{39}{12} - \frac{34}{12} = \frac{5}{12}$
14. $8\frac{2}{5} - 6\frac{4}{5}$ — $1\frac{3}{5}$
15. $5 - 3\frac{4}{7}$ — $1\frac{3}{7}$
16. $10 - 5\frac{7}{10}$ — $4\frac{3}{10}$
17. $7\frac{1}{2} - 6\frac{3}{10}$ — $1\frac{1}{5}$
18. $2\frac{2}{3} - 1\frac{2}{5}$ — $1\frac{4}{15}$
19. $5\frac{1}{2} - 3\frac{2}{3}$ — $1\frac{5}{6}$

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LESSON 3-9

Challenge

Mixed Number Magic

In a magic square, each row, column, and diagonal has the same sum. Fill in the missing numbers to complete each magic square below.

Magic Square #1

$4\frac{1}{3}$	$9\frac{3}{4}$	$2\frac{1}{6}$
$3\frac{1}{4}$	$5\frac{5}{12}$	$7\frac{7}{12}$
$8\frac{2}{3}$	$1\frac{1}{12}$	$6\frac{1}{2}$

Magic Square #1 sum: $16\frac{1}{4}$

Magic Square #2

$2\frac{1}{6}$	$4\frac{7}{8}$	$1\frac{1}{12}$
$1\frac{5}{8}$	$2\frac{17}{24}$	$3\frac{19}{24}$
$4\frac{1}{3}$	$\frac{13}{24}$	$3\frac{1}{4}$

Magic Square #2 sum: $8\frac{1}{8}$

What is the difference between these two magic sums? $8\frac{1}{8}$

Magic Square #3

6	$13\frac{1}{2}$	3
$4\frac{1}{2}$	$7\frac{1}{2}$	$10\frac{1}{2}$
12	$1\frac{1}{2}$	9

Magic Square #3 sum: $22\frac{1}{2}$

Magic Square #4

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

Magic Square #4 sum: $5\frac{5}{8}$

What is the difference between these two magic sums? $16\frac{7}{8}$

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