

**LESSON**  
**3-8** **Practice C**  
***Adding and Subtracting Fractions***

Add or subtract. Write each answer in simplest form.

1.  $\frac{7}{15} - \frac{4}{15}$

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2.  $\frac{7}{18} + \frac{11}{18}$

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3.  $\frac{6}{7} + \frac{8}{21}$

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4.  $\frac{2}{5} + \frac{7}{15}$

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5.  $\frac{5}{12} - \frac{4}{9}$

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6.  $\frac{7}{30} - \frac{9}{10}$

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7.  $\frac{8}{9} - \frac{5}{18}$

\_\_\_\_\_

8.  $\frac{7}{25} + \frac{4}{5}$

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9.  $\frac{3}{8} + \frac{5}{11}$

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10.  $\frac{1}{8} - \frac{19}{40}$

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11.  $\frac{5}{8} + \frac{7}{12}$

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

\_\_\_\_\_

13.  $\frac{7}{8} + \frac{4}{5} + \frac{9}{20}$

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14.  $\frac{11}{12} - \frac{5}{6} - \frac{2}{3}$

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15.  $-\frac{2}{3} + \frac{13}{15} - \frac{4}{5}$

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16.  $-\frac{7}{12} - \frac{1}{5} + \frac{3}{4}$

\_\_\_\_\_

17.  $\frac{7}{9} + \frac{2}{5} - \frac{4}{15}$

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18.  $\frac{13}{20} - \frac{2}{7} + \frac{11}{35}$

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19. In 2001, the population of the United States was about  $\frac{2}{7}$  billion people. It is projected that by 2025, there will be over  $\frac{1}{3}$  billion people in the United States. How much will the population increase by 2025?

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20. Benjamin walks  $\frac{11}{15}$  mile to work and then  $\frac{3}{10}$  mile to the grocery store. How far does he walk?

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21. About  $\frac{2}{5}$  of the population in the United States has blood type A. About  $\frac{23}{50}$  have blood type O. What fraction of the population has either blood type A or O?

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**LESSON Practice C**

**3-8 Adding and Subtracting Fractions**

Add or subtract. Write each answer in simplest form.

1.  $\frac{7}{15} - \frac{4}{15} = \frac{3}{15} = \frac{1}{5}$
2.  $\frac{7}{18} + \frac{11}{18} = \frac{18}{18} = 1$
3.  $\frac{6}{7} + \frac{8}{21} = \frac{12}{14} + \frac{8}{14} = \frac{20}{14} = 1\frac{5}{7}$
4.  $\frac{2}{5} + \frac{7}{15} = \frac{4}{15} + \frac{7}{15} = \frac{11}{15}$
5.  $\frac{5}{12} - \frac{4}{9} = \frac{5}{12} - \frac{4}{12} = \frac{1}{12}$
6.  $\frac{7}{30} - \frac{9}{10} = \frac{7}{30} - \frac{27}{30} = -\frac{20}{30} = -\frac{2}{3}$
7.  $\frac{8}{9} - \frac{5}{18} = \frac{16}{18} - \frac{5}{18} = \frac{11}{18}$
8.  $\frac{7}{25} + \frac{4}{5} = \frac{7}{25} + \frac{20}{25} = \frac{27}{25} = 1\frac{2}{25}$
9.  $\frac{3}{8} + \frac{5}{11} = \frac{33}{88} + \frac{40}{88} = \frac{73}{88}$
10.  $\frac{1}{8} - \frac{19}{40} = \frac{5}{40} - \frac{19}{40} = -\frac{14}{40} = -\frac{7}{20}$
11.  $\frac{5}{8} + \frac{7}{12} = \frac{15}{24} + \frac{14}{24} = \frac{29}{24}$
12.  $\frac{5}{6} - \frac{5}{9} = \frac{10}{12} - \frac{5}{12} = \frac{5}{12}$
13.  $\frac{7}{8} + \frac{4}{5} + \frac{9}{20} = \frac{35}{40} + \frac{32}{40} + \frac{18}{40} = \frac{85}{40} = 2\frac{1}{8}$
14.  $\frac{11}{12} - \frac{5}{6} - \frac{2}{3} = \frac{11}{12} - \frac{10}{12} - \frac{8}{12} = -\frac{7}{12}$
15.  $-\frac{2}{3} + \frac{13}{15} - \frac{4}{5} = -\frac{4}{6} + \frac{13}{15} - \frac{8}{15} = -\frac{4}{6} + \frac{1}{15} = -\frac{13}{15}$
16.  $-\frac{7}{12} - \frac{1}{5} + \frac{3}{4} = -\frac{7}{12} - \frac{2}{12} + \frac{9}{12} = -\frac{1}{12}$
17.  $\frac{7}{9} + \frac{2}{5} - \frac{4}{15} = \frac{14}{18} + \frac{8}{18} - \frac{8}{18} = \frac{14}{18} = \frac{7}{9}$
18.  $\frac{13}{20} - \frac{2}{7} + \frac{11}{35} = \frac{13}{20} - \frac{4}{20} + \frac{11}{35} = \frac{9}{20} + \frac{11}{35} = \frac{63}{140} + \frac{44}{140} = \frac{107}{140}$

19. In 2001, the population of the United States was about  $\frac{2}{5}$  billion people. It is projected that by 2025, there will be over  $\frac{1}{3}$  billion people in the United States. How much will the population increase by 2025?  
 $\frac{1}{21}$  billion
20. Benjamin walks  $\frac{11}{15}$  mile to work and then  $\frac{3}{10}$  mile to the grocery store. How far does he walk?  
 $1\frac{1}{30}$  miles
21. About  $\frac{2}{5}$  of the population in the United States has blood type A. About  $\frac{23}{50}$  have blood type O. What fraction of the population has either blood type A or O?  
about  $\frac{43}{50}$

**LESSON Reteach**

**3-8 Adding and Subtracting Fractions**

To add or subtract fractions with different denominators:

- Step 1:** Find the least common multiple of the denominators.
- Step 2:** Write both fractions with the least common multiple (LCM) as the denominator.
- Step 3:** Add or subtract the numerators, keeping the denominator the same. Write the answer in simplest form.

$$\frac{1}{4} + \frac{5}{6} \qquad \frac{2}{3} - \frac{1}{2}$$

The LCM of 4 and 6 is 12. The LCM of 3 and 2 is 6.

$$\frac{1}{4} = \frac{3}{12} \text{ and } \frac{5}{6} = \frac{10}{12} \qquad \frac{2}{3} = \frac{4}{6} \text{ and } \frac{1}{2} = \frac{3}{6}$$

$$\frac{1}{4} + \frac{5}{6} = \frac{3}{12} + \frac{10}{12} = \frac{3+10}{12} = \frac{13}{12} = 1\frac{1}{12} \qquad \frac{2}{3} - \frac{1}{2} = \frac{4}{6} - \frac{3}{6} = \frac{4-3}{6} = \frac{1}{6}$$

Add or subtract. Write each answer in simplest form.

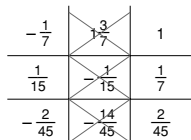
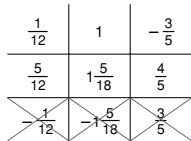
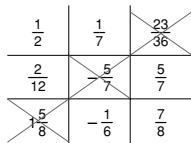
1.  $\frac{3}{5} + \frac{1}{3} = \frac{9}{15} + \frac{5}{15} = \frac{14}{15}$
2.  $\frac{8}{9} - \frac{1}{3} = \frac{8}{9} - \frac{3}{9} = \frac{5}{9}$
3.  $\frac{2}{5} + \frac{1}{2} = \frac{4}{10} + \frac{5}{10} = \frac{9}{10}$
4.  $\frac{3}{4} - \frac{1}{3} = \frac{9}{12} - \frac{4}{12} = \frac{5}{12}$
5.  $\frac{2}{3} + \frac{3}{4} = \frac{8}{12} + \frac{9}{12} = \frac{17}{12} = 1\frac{5}{12}$
6.  $\frac{1}{4} - \frac{5}{8} = \frac{2}{8} - \frac{5}{8} = -\frac{3}{8}$
7.  $\frac{1}{4} + \frac{2}{3} = \frac{3}{12} + \frac{8}{12} = \frac{11}{12}$
8.  $\frac{9}{10} - \frac{1}{2} = \frac{9}{10} - \frac{5}{10} = \frac{4}{10} = \frac{2}{5}$
9.  $\frac{7}{10} + \frac{2}{5} = \frac{7}{10} + \frac{4}{10} = \frac{11}{10}$
10.  $\frac{11}{12} - \frac{2}{3} = \frac{11}{12} - \frac{8}{12} = \frac{3}{12} = \frac{1}{4}$
11.  $\frac{1}{4} - \frac{7}{10} = \frac{5}{20} - \frac{14}{20} = -\frac{9}{20}$
12.  $\frac{3}{4} + \frac{4}{5} = \frac{15}{20} + \frac{16}{20} = \frac{31}{20}$

**LESSON Challenge**

**3-8 Fraction Tic-Tac-Toe**

Find each sum or difference. Write the answer in simplest terms. Cross off the answers in the tic-tac-toe board to win.

1.  $\frac{3}{8} + \frac{1}{2} + \frac{3}{4} = 1\frac{5}{8}$
2.  $-\frac{6}{7} + \frac{2}{3} + (-\frac{11}{21}) = -\frac{5}{7}$
3.  $\frac{8}{9} + \frac{1}{3} + (-\frac{7}{12}) = \frac{23}{36}$
4.  $\frac{1}{6} + (-\frac{2}{3}) - (-\frac{5}{12}) = -\frac{1}{12}$
5.  $-\frac{7}{9} - \frac{5}{6} + \frac{1}{3} = -1\frac{5}{18}$
6.  $\frac{7}{10} - (-\frac{1}{2}) + (-\frac{3}{5}) = \frac{3}{5}$
7.  $\frac{9}{14} - (-\frac{2}{7}) - (-\frac{1}{2}) = 1\frac{3}{7}$
8.  $-\frac{8}{15} - \frac{1}{3} + \frac{4}{5} = -\frac{1}{15}$
9.  $\frac{2}{9} - \frac{2}{5} + (-\frac{2}{15}) = -\frac{14}{45}$



**LESSON Problem Solving**

**3-8 Adding and Subtracting Fractions**

Write the correct answer.

1. During the recycling drive,  $\frac{1}{5}$  of the material collected was bottles and  $\frac{1}{4}$  was paper. Cardboard boxes made up  $\frac{1}{10}$  of the material. How much of the total do these three items represent?  
 $\frac{11}{20}$  of the total
2. Decorations for school dances take  $\frac{1}{5}$  of the student council's budget. Entertainment takes  $\frac{3}{10}$  of the budget. What fraction of the budget is left?  
 $\frac{1}{2}$  of the budget
3. The school environmental club made a poster to celebrate Earth Day. The poster is  $\frac{7}{8}$  yard long and  $\frac{2}{3}$  yard wide. What is the difference in the length and width of the poster?  
 $\frac{5}{24}$  yard
4. Three students ran for president of the student council. Eddie received  $\frac{1}{5}$  of the votes. Tamara received  $\frac{3}{8}$  of the votes. Levi received the rest. Which student won the election?  
Levi

Choose the letter for the best answer.

5. The Reeds budget  $\frac{1}{3}$  of their income for rent and  $\frac{1}{4}$  for food. How much of their budget is left?  
A  $\frac{1}{2}$       C  $\frac{5}{12}$   
B  $\frac{3}{4}$       D  $\frac{7}{12}$
6. Jasmine's CD collection is  $\frac{3}{8}$  jazz,  $\frac{1}{4}$  classical, and the rest rock music. What fraction of her CDs is rock music?  
F  $\frac{1}{4}$       H  $\frac{1}{2}$   
G  $\frac{3}{8}$       J  $\frac{5}{8}$
7. Wong has 2 boxes of saltwater taffy. One box contains  $\frac{3}{4}$  pound, and the other box contains  $\frac{7}{10}$  pound. How much taffy does he have all together?  
A  $\frac{9}{10}$  pound  
B  $1\frac{9}{20}$  pounds  
C  $1\frac{1}{2}$  pounds  
D  $1\frac{13}{20}$  pounds
8. In 1992, about  $\frac{43}{100}$  people voted for Bill Clinton for President. About  $\frac{1}{5}$  voted for Ross Perot and the rest voted for George Bush. About how many voted for George Bush?  
F about  $\frac{37}{100}$   
G about  $\frac{52}{100}$   
H about  $\frac{57}{100}$   
J about  $\frac{3}{5}$