

Fractions: Greatest Common Factor

Example: List the factors of 12 and 18. Circle the common factors. Write the greatest common factor (GCF).



Factors of 12: ①, ②, ③, 4, ⑥, 12

Factors of 18: ①, ②, ③, ⑥, 9, 18

Common Factors: ①, ②, ③, ⑥

GCF=6

A **factor** is a number that another number can be divided by evenly.

List the factors of each pair of numbers. Circle the common factors. Find the greatest common factor (GCF).

1. 6:
18:
GCF: _____

4:
12:
GCF: _____

2. 12:
18:
GCF: _____

14:
21:
GCF: _____

3. 18:
27:
GCF: _____

24:
32:
GCF: _____

4. 9:
12:
GCF: _____

9:
15:
GCF: _____

5. 15:
20:
GCF: _____

15:
40:
GCF: _____

6. 14:
35:
GCF: _____

15:
35:
GCF: _____



Fractions: Least Common Multiple

The least common multiple (LCM) is the smallest number that is a multiple of two or more numbers.

Example: Find the LCM of 6 and 8.

- List some multiples of 6 and 8.
- Circle the common multiples.
- Write the least common multiple (LCM).

Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48

Multiples of 8: 8, 16, 24, 32, 40, 48

LCM = 24

Find the least common multiple (LCM) of each pair of numbers.

1. 6:
2:
LCM: _____

2. 5:
3:
LCM: _____

3. 8:
12:
LCM: _____

4. 12:
20:
LCM: _____

4:
8:
LCM: _____

4:
6:
LCM: _____

6:
10:
LCM: _____

10:
15:
LCM: _____



Find the least common multiple (LCM) of each set of numbers.

5. 6:
5:
15:
LCM: _____

6. 8:
10:
20:
LCM: _____

4:
9:
18:
LCM: _____

10:
15:
30:
LCM: _____

Lesson 9-3 • Reinforce Understanding

Add Fractions with Unlike Denominators

Name _____

Review

You can make a table to help find the lowest common multiple for the denominator.

Consider $\frac{5}{12} + \frac{3}{8}$. It has denominators 12 and 8.

The first number that appears in both rows is 24. Make equivalent fractions with like denominators of 24.

	$\times 1$	$\times 2$	$\times 3$	$\times 4$
12	12	24	36	48
8	8	16	24	32

$$\frac{5}{12} + \frac{3}{8} = \frac{19}{24}$$

$$\begin{aligned}\frac{5}{12} + \frac{3}{8} &= \frac{5 \times 2}{12 \times 2} + \frac{3 \times 3}{8 \times 3} \\ &= \frac{10}{24} + \frac{9}{24} \\ &= \frac{19}{24}\end{aligned}$$

What is the sum? Use a table to find the lowest common multiple.

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

5. $\frac{3}{10} + \frac{5}{6} =$ _____

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

6. $\frac{5}{6} + \frac{4}{15} =$ _____

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

7. $\frac{7}{12} + \frac{5}{8} =$ _____

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

8. $\frac{2}{11} + \frac{1}{4} =$ _____

Lesson 9-2 • Reinforce Understanding

Represent Addition of Fractions with Unlike Denominators

Name _____

Review

Consider $\frac{5}{4} + \frac{3}{8}$. Use fraction tiles to solve.

You can use equivalent fractions to write fractions with like denominators.

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Therefore, $\frac{5}{4} + \frac{3}{8} = \frac{13}{8}$.

What equation do the fraction tiles represent? Write the equation and solve.

1.

$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{3}$
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$

2.

$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$
$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$

Solve the equation using fraction tiles.

3. $\frac{4}{5} + \frac{3}{10} =$ _____

5. $\frac{5}{9} + \frac{2}{3} =$ _____

4. $\frac{1}{4} + \frac{5}{12} =$ _____

6. $\frac{7}{8} + \frac{3}{4} =$ _____

Adding Fractions with Unlike Denominators

12

Name: _____

Add.

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

2 $\frac{1}{2} + \frac{3}{8}$

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

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

5 $\frac{5}{6} + \frac{1}{12}$

6 $\frac{1}{3} + \frac{2}{5}$

7 $\frac{5}{6} + \frac{2}{3}$

8 $\frac{3}{4} + \frac{5}{6}$

9 $\frac{7}{9} + \frac{1}{6}$

10 $\frac{7}{8} + \frac{2}{3}$

11 $\frac{3}{2} + \frac{3}{5}$

12 $\frac{9}{8} + \frac{5}{6}$

- 13 What is a different common denominator you could use in problem 2? Describe how you would add the fractions using this different common denominator. Is the result equivalent to the sum found in problem 2?

Adding Fractions with Unlike Denominators

12

Name: _____

Add.

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

2 $\frac{1}{2} + \frac{3}{8}$

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

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

5 $\frac{5}{6} + \frac{1}{12}$

6 $\frac{1}{3} + \frac{2}{5}$

7 $\frac{5}{6} + \frac{2}{3}$

8 $\frac{3}{4} + \frac{5}{6}$

9 $\frac{7}{9} + \frac{1}{6}$

10 $\frac{7}{8} + \frac{2}{3}$

11 $\frac{3}{2} + \frac{3}{5}$

12 $\frac{9}{8} + \frac{5}{6}$

- 13 What is a different common denominator you could use in problem 2? Describe how you would add the fractions using this different common denominator. Is the result equivalent to the sum found in problem 2?

Lesson 9-5 • Reinforce Understanding

Subtract Fractions with Unlike Denominators

Name _____

Review

You can make a table to help find a common multiple for the denominator.

Consider $\frac{5}{12} - \frac{3}{8}$. It has denominators 12 and 8.

The first number that appears in both rows is 24. Make equivalent fractions with like denominators of 24.

	$\times 1$	$\times 2$	$\times 3$	$\times 4$
12	12	24	36	48
8	8	16	24	32

$$\frac{5}{12} - \frac{3}{8} = \frac{1}{24}$$

$$\begin{aligned} \frac{5}{12} - \frac{3}{8} &= \frac{5 \times 2}{12 \times 2} - \frac{3 \times 3}{8 \times 3} \\ &= \frac{10}{24} - \frac{9}{24} \\ &= \frac{1}{24} \end{aligned}$$

What is the difference? Use a table to find a common multiple.

1. $\frac{5}{6} - \frac{1}{3} =$ _____

2. $\frac{11}{12} - \frac{3}{4} =$ _____

3. $\frac{6}{7} - \frac{2}{3} =$ _____

4. $\frac{5}{6} - \frac{5}{9} =$ _____

5. $\frac{2}{3} - \frac{5}{12} =$ _____

6. $\frac{4}{5} - \frac{1}{2} =$ _____

7. $\frac{9}{10} - \frac{1}{6} =$ _____

8. $\frac{5}{8} - \frac{2}{11} =$ _____

Lesson 9-4 • Reinforce Understanding

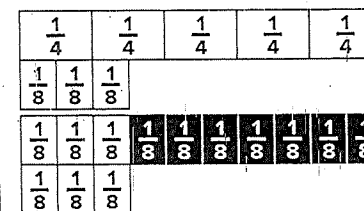
Represent Subtraction of Fractions with Unlike Denominators

Name _____

Review

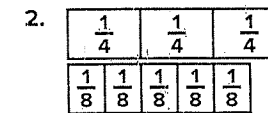
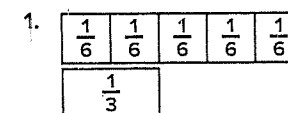
Consider $\frac{5}{4} - \frac{3}{8}$. Use fraction tiles to solve.

You can use equivalent fractions to write fractions with like denominators.



Therefore, $\frac{5}{4} - \frac{3}{8} = \frac{7}{8}$.

What difference equation do the fraction tiles represent. Write the equation with like denominators.



What is the difference? Use fraction tiles to help you subtract.

3. $\frac{3}{4} - \frac{7}{12} =$ _____

4. $\frac{4}{5} - \frac{3}{10} =$ _____

5. $\frac{5}{9} - \frac{1}{6} =$ _____

6. $\frac{7}{8} - \frac{3}{4} =$ _____

Subtracting Fractions with Unlike Denominators

13

Name: _____

Subtract.

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

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

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

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

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

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

7 $\frac{7}{8} - \frac{3}{4}$

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

9 $\frac{3}{4} - \frac{3}{5}$

10 $\frac{2}{3} - \frac{3}{5}$

11 $\frac{5}{6} - \frac{3}{8}$

12 $\frac{7}{8} - \frac{2}{3}$

13 How could you check your work in problem 4? Describe each step.

Subtracting Fractions with Unlike Denominators

13

Name: _____

Subtract.

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

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

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

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

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

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

7 $\frac{7}{8} - \frac{3}{4}$

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

9 $\frac{3}{4} - \frac{3}{5}$

10 $\frac{2}{3} - \frac{3}{5}$

11 $\frac{5}{6} - \frac{3}{8}$

12 $\frac{7}{8} - \frac{2}{3}$

13 How could you check your work in problem 4? Describe each step.