

# Mighty Multiples

## Working with Common Multiples



A *common multiple* is a multiple common to two or more different factors.

Multiples of 3: 3, 6, 9, (12), 15, 18, 21, (24)

Multiples of 4: 4, 8, (12), 16, 20, (24), 28, 32

Common multiples of 3 and 4: 12 and 24

**Directions:** Study the Facts and Reminders sheet for this unit. Write the first eight multiples of each factor listed here. The first one is done for you.

1. Multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40

2. Multiples of 6: \_\_\_\_\_

3. Multiples of 7: \_\_\_\_\_

4. Multiples of 8: \_\_\_\_\_

5. Multiples of 9: \_\_\_\_\_

6. Multiples of 10: \_\_\_\_\_

7. Multiples of 11: \_\_\_\_\_

8. Multiples of 12: \_\_\_\_\_

**Directions:** Study the Facts and Reminders page for this unit. Write the multiples for each pair of factors listed below until you find the first three common multiples for each pair. Circle the three common multiples. The first one is done for you.

9. Multiples of 2: 2, 4, (6), 8, 10, (12), 14, 16, (18)

Multiples of 3: 3, (6), 9, (12), 15, (18)

10. Multiples of 4: \_\_\_\_\_

Multiples of 5: \_\_\_\_\_

11. Multiples of 6: \_\_\_\_\_

Multiples of 4: \_\_\_\_\_

12. Multiples of 9: \_\_\_\_\_

Multiples of 6: \_\_\_\_\_

13. Multiples of 8: \_\_\_\_\_

Multiples of 6: \_\_\_\_\_

14. Multiples of 8: \_\_\_\_\_

Multiples of 12: \_\_\_\_\_

# Mighty Multiples

## Least Common Multiple (LCM)



The *least common multiple (LCM)* is the lowest multiple which is common to two or more factors.

Multiples of 3: 3, (6), 9, (12), 15, (18)

Multiples of 2: 2, 4, (6), 8, 10, (12), 14, 16, (18)

The least common multiple (LCM) of 3 and 2 is 6.

**Directions:** Circle the common multiples for the pairs of factors named below. Name the *least common multiple (LCM)*. The first one has been done for you.

1. Multiples of 6: (6), (12), (18)

Multiples of 2: 2, 4, (6), 8, 10, (12), 14, 16, (18)

LCM: 6

2. Multiples of 4: 4, 8, 12, 16, 20

Multiples of 2: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

LCM: \_\_\_\_\_

3. Multiples of 6: 6, 12, 18, 24, 30, 36

Multiples of 9: 9, 18, 27, 36

LCM: \_\_\_\_\_

4. Multiples of 9: 9, 18, 27, 36

Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32, 36

LCM: \_\_\_\_\_

5. Multiples of 12: 12, 24, 36, 48, 60, 72

Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72

LCM: \_\_\_\_\_

**Directions:** List the first eight multiples for each of the pairs of factors named below. Name the least common multiple (LCM).

6. Multiples of 9: \_\_\_\_\_

Multiples of 3: \_\_\_\_\_

LCM: \_\_\_\_\_

7. Multiples of 5: \_\_\_\_\_

Multiples of 10: \_\_\_\_\_

LCM: \_\_\_\_\_

8. Multiples of 3: \_\_\_\_\_

Multiples of 4: \_\_\_\_\_

Multiples of 6: \_\_\_\_\_

LCM: \_\_\_\_\_

9. Multiples of 3: \_\_\_\_\_

Multiples of 6: \_\_\_\_\_

Multiples of 8: \_\_\_\_\_

LCM: \_\_\_\_\_

# Mighty Multiples

## Lowest Common Denominator (LCD)

The *least common multiple (LCM)* is used to determine the appropriate denominator for adding unlike fractions. In adding unlike fractions, you need to find the lowest common denominator (LCD) of the two fractions. The lowest common denominator is the least common multiple of these two denominators. (LCM = LCD)

$$\begin{array}{r} \frac{2}{9} = \frac{4}{18} \\ + \frac{1}{6} = \frac{3}{18} \\ \hline \end{array}$$

The lowest common denominator (LCD) of 9 and 6 is 18.

**Directions:** Study the Facts and Reminders page for this unit. Find the lowest common denominator (LCD) for each set of fractions.

1. 
$$\begin{array}{r} \frac{1}{9} \\ + \frac{3}{6} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

2. 
$$\begin{array}{r} \frac{3}{4} \\ + \frac{5}{9} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

3. 
$$\begin{array}{r} \frac{4}{7} \\ + \frac{1}{4} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

4. 
$$\begin{array}{r} \frac{1}{8} \\ + \frac{1}{6} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

5. 
$$\begin{array}{r} \frac{4}{5} \\ + \frac{1}{4} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

6. 
$$\begin{array}{r} \frac{3}{12} \\ + \frac{3}{4} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

7. 
$$\begin{array}{r} \frac{1}{5} \\ + \frac{4}{6} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

8. 
$$\begin{array}{r} \frac{4}{9} \\ + \frac{1}{3} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

9. 
$$\begin{array}{r} \frac{5}{8} \\ + \frac{1}{4} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

10. 
$$\begin{array}{r} \frac{1}{12} \\ + \frac{5}{10} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

11. 
$$\begin{array}{r} \frac{1}{9} \\ + \frac{5}{15} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

12. 
$$\begin{array}{r} \frac{7}{10} \\ + \frac{3}{15} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

13. 
$$\begin{array}{r} \frac{1}{16} \\ + \frac{1}{12} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

14. 
$$\begin{array}{r} \frac{3}{12} \\ + \frac{7}{15} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

15. 
$$\begin{array}{r} \frac{2}{8} \\ + \frac{3}{18} \\ \hline \end{array}$$

LCD: \_\_\_\_\_

# Answer Key

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- (5, 10, 15, 20, 25, 30, 35, 40)
- (6, 12, 18, 24, 30, 36, 42, 48)
- (7, 14, 21, 28, 35, 42, 49, 56)
- (8, 16, 24, 32, 40, 48, 56, 64)
- (9, 18, 27, 36, 45, 54, 63, 72)
- (10, 20, 30, 40, 50, 60, 70, 80)
- (11, 22, 33, 44, 55, 66, 77, 88)
- (12, 24, 36, 48, 60, 72, 84, 96)
- Multiples of 2: (2, 4, 6, 8, 10, 12, 14, 16, 18)  
Multiples of 3: (3, 6, 9, 12, 15, 18)  
Common Multiples: (6, 12, 18)
- Multiples of 4: (4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60)  
Multiples of 5: (5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60)  
Common Multiples: (20, 40, 60)
- Multiples of 6: (6, 12, 18, 24, 30, 36)  
Multiples of 4: (4, 8, 12, 16, 20, 24, 28, 32, 36)  
Common Multiples: (12, 24, 36)
- Multiples of 9: (9, 18, 27, 36, 45, 54)  
Multiples of 6: (6, 12, 18, 24, 30, 36, 42, 48, 54)  
Common Multiples: (18, 36, 54)
- Multiples of 8: (8, 16, 24, 32, 40, 48, 56, 64, 72)  
Multiples of 6: (6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72)  
Common Multiples: (24, 48, 72)
- Multiples of 8: (8, 16, 24, 32, 40, 48, 56, 64, 72)  
Multiples of 12: (12, 24, 36, 48, 60, 72)  
Common Multiples: (24, 48, 72)

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- Common Multiples: (6, 12, 18)  
LCM: (6)
- Common Multiples: (4, 8, 12, 16, 20)  
LCM: (4)
- Common Multiples: (18, 36)  
LCM: (18)
- Common Multiples: (36)  
LCM: (36)
- Common Multiples: (36, 72)  
LCM: (36)
- Multiples of 9: (9, 18, 27, 36, 45, 54, 63, 72)  
Multiples of 3: (3, 6, 9, 12, 15, 18, 21, 24)  
LCM: (9)
- Multiples of 5: (5, 10, 15, 20, 25, 30, 35, 40)  
Multiples of 10: (10, 20, 30, 40, 50, 60, 70, 80)  
LCM: (10)
- Multiples of 3: (3, 6, 9, 12, 15, 18, 21, 24)  
Multiples of 4: (4, 8, 12, 16, 20, 24, 28, 32)  
Multiples of 6: (6, 12, 18, 24, 30, 36, 42, 48)  
LCM: (12)
- Multiples of 3: (3, 6, 9, 12, 15, 18, 21, 24)  
Multiples of 6: (6, 12, 18, 24, 30, 36, 42, 48)  
Multiples of 8: (8, 16, 24, 32, 40, 48, 56, 64)  
LCM: (24)

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- 18
- 36
- 28
- 24
- 20
- 12
- 30
- 9