

# 1.6 Determining Common Multiples

## GOAL

Identify multiples, common multiples, and least common multiples of whole numbers.

1. a) Fill in the blanks to list the first ten multiples of 3.

3, 6, 9, 12, 15, 18, 21, 24, 27, 30

- b) Fill in the blanks to list the first ten multiples of 5.

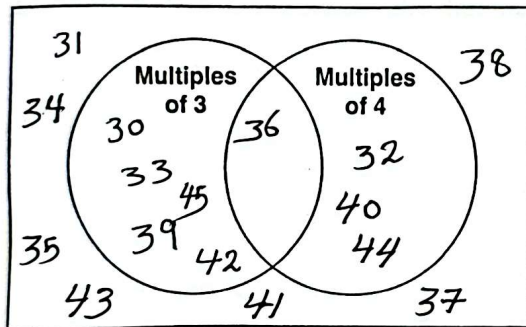
5, 10, 15, 20, 25, 30, 35, 40, 45, 50

- c) What are two common multiples of 3 and 5?

15, 30

- d) What is the LCM of 3 and 5? 15

2. Place the numbers from 30 to 45 into the Venn Diagram. If a number does not fit, place it outside of the circles.



3. Write multiples to determine the LCM of each set of numbers.

a) multiples of 3: 3, 6, 9, 12, 15, 18, 21, 24 b) multiples of 5: 5, 10, 15, 20, 25, 30, 35, 40, 45  
 multiples of 8: 8, 16, 24, 32, 40 multiples of 9: 9, 18, 27, 36, 45, 54

LCM of 3 and 8: 24

LCM of 5 and 9: 45

4. Megan, Diane, and Oshana all work at the movie store. Megan works every 3rd day, Oshana works every 5th day, and Diane works every 10th day. If the three friends started on the same day, in how many days will they all work together again?

3: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

5: 5, 10, 15, 20, 25, 30, 35, 40, 45

10: 10, 20, 30, 40, 50, 60, 70, 80

after 30 days.

# 1.7

## Determining Common Factors

### GOAL

Determine factors, common factors, and the greatest common factor of whole numbers.

1. Write all the multiplication sentences for each of the following:

a)  $15 = 1 \times 15$   
 $3 \times 5$   
 $5 \times 3$

b)  $325 = 1 \times 325$   
 $2 \times 162.5$   
 $4 \times 81.25$

2. List all the factors for each number:

a) 18 1, 2, 3, 6, 9, 18

b) 21 1, 3, 7, 21

3. Circle the numbers in the box that are factors of 8 and cross out the numbers in the box that are multiples of 8.

4. Find the GCF of each pair of numbers.

- a) 24 and 12

factors of 24 1, 2, 4, 6, 8, 3, 24, 12

factors of 12 1, 2, 3, 4, 6, 12

GCF of 24 and 12 12

- b) factors of 30 1, 30, 2, 15, 3, 10, 5, 6

factors of 20 1, 20, 2, 10, 5, 4

GCF of 30 and 20 10

5. Kevin and Julio planted gardens beside each other. Their gardens share one side. Kevin's garden measures  $36 \text{ m}^2$  and Julio's garden measures  $24 \text{ m}^2$ . What is the greatest length the two gardens can share?

$24 : 1, 24, 2, 12, 4, 6, 3, 8$

$36 : 1, 36, 2, 18, 3, 12, 4, 9$

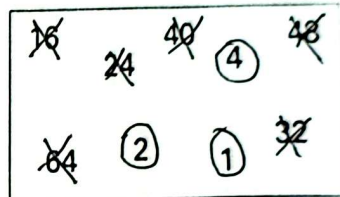
GCF: 12 m

### At Home Help

A common factor is a factor that two or more numbers have in common. For example, 4 is a common factor of 8 and 12.

The greatest common factor or GCF is the greatest whole number that divides two or more whole numbers with no remainder. For example, 3 is the GCF of 9 and 12.

Every number has at least 2 factors, 1 and itself.



# 3.1 Exploring Adding and Subtracting Decimals

## GOAL

Add and subtract decimals using mental math.

1. Rewrite these number sentences using near numbers, to make them easier to estimate. Then calculate. The first one is done for you.

a)  $3.19 + 1.20 = 4.4$   $3.2 + 1.2 = 4.4$

b)  $2.75 + 1.01 = 3 + 1 = 4$

c)  $4.48 + 2.50 = 4 + 3 = 7$

d)  $9.99 + 3.02 = 10 + 3 = 13$

2. Estimate each sum.

a)  $4.50 + 2.25 = 7$

b)  $8.95 + 1.05 = 10$

c)  $0.95 + 4.45 = 5$

d)  $5.00 + 1.33 = 6$

e)  $4.65 + 2.49 = 7$

f)  $3.75 + 3.35 = 7$

3. Estimate each difference.

a)  $6.75 - 4.25 = 3$

b)  $8.20 - 4.15 = 4$

c)  $9.00 - 8.35 = 1$

d)  $4.88 - 1.99 = 3$

e)  $7.45 - 6.95 = 0$

f)  $8.00 - 1.99 = 6$

4. Circle the closest estimate for each calculation.

a)  $5.66 - 1.98$  3.0 4.0 5.0 6.0 7.0

b)  $2.76 + 3.66$  3.0 4.0 5.0 6.0 7.0

c)  $13.96 - 10.1$  3.0 4.0 5.0 6.0 7.0

d)  $2.3 + 2.99$  3.0 4.0 5.0 6.0 7.0

## At-Home Help

When estimating, ask yourself these questions:

- Will it help to use the nearest tenth?

For example,  $0.23 \approx 0.2$

- Will it help to use the nearest whole number?

For example,  $1.03 \approx 1$

Choose the nearest number that is most helpful to you. There is no single right answer for an estimate.



# 3.2 Adding and Subtracting Decimals

## GOAL

Develop strategies to add and subtract decimals.

Estimate.

- a)  $3.201 + 5.198 = 3 + 5 = 8$   
 b)  $9.852 - 3.201 = 10 - 3 = 7$   
 c)  $12.694 - 7.561 = 13 - 8 = 5$

Calculate each sum.

- a)  $12.201 + 2.230 = 14.431$   
 b)  $30.202 + 1.106 = 31.308$   
 c)  $2.944 + 0.280 = 3.224$   
 d)  $2.526 + 0.644 + 6.003 = 9.173$   
 e)  $8.002 + 0.233 + 7.636 = 15.871$   
 f)  $0.992 + 32.805 + 76.023 = 109.82$

Calculate each difference.

- a)  $6.750 - 4.250 = 2.5$  d)  $4.883 - 1.992 = 2.891$   
 b)  $8.206 - 4.153 = 4.053$  e)  $7.457 - 6.954 = 0.503$   
 c)  $9.000 - 8.351 = 0.649$  f)  $8.000 - 1.999 = 6.001$

Estimate and then calculate each answer.

- a)  $5.442 + 6.301 + 2.120 = 5 + 6 + 2 = 13$   
 b)  $6.001 - 4.999 = 6 - 5 = 1$   
 c)  $4.318 + 5.000 + 7.300 = 4 + 5 + 7 = 16$

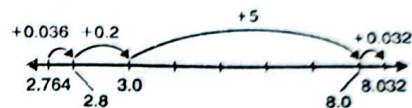
Fiona had \$20.00. She bought a sandwich for \$3.99, juice for \$1.29, and salad for \$1.55. How much change will Fiona get back?

$$\begin{aligned} & 20 - (3.99 + 1.29 + 1.55) \\ &= 20 - 6.83 \\ &= 13.17 \end{aligned}$$

## At-Home Help

Here are some strategies to add and subtract decimals:

- Use front-end estimation.  
For example, to estimate  $2.14 + 4.93$ , add  $2 + 4$  to  $0.1 + 0.9$ . The total is  $6 + 1.0 = 7.0$ .
- Use mental math.  
For example,  $8.032 - 2.764$  means "How far is it from 2.764 to 8.032?" Jump up by steps to calculate the answer:



$$0.036 + 0.2 + 5 + 0.032 = 5.27$$