



**Additional Practice** *(continued)***Investigation 1****Decimal Operations**

4. A grocer purchases 20.2 pounds of roast beef for a bulk rate price of \$39.20. How much does the grocer pay per pound?
5. The grocer from Exercise 4 sells roast beef for \$3.09 per pound. Ms. Smith has a coupon for \$0.75 off her total. She purchases 1.52 pounds of roast beef. How much is her bill after the coupon?
6. A hiking guide recommends using a backpack that weighs no more than 25 pounds. Karin and Sarah each plan on taking a backpack on their hike. The table shows the weights of the items that they want to take.

<b>1 liter of water: 2.2 pounds</b>	<b>Trail mix: 0.75 pound</b>	<b>Rain jacket: 1.1 pounds</b>
<b>Dry socks: 0.14 pound</b>	<b>Fresh fruit: 0.6 pound</b>	<b>Backpack: 1.7 pounds</b>

Karin and Sarah each plan on packing 3 liters of water and one of each other item in her backpack for a 1-day hike. What is the total weight of one backpack?

**Additional Practice** *(continued)***Investigation 1****Decimal Operations**

7. Ava has \$20 gift card to spend at an online store. The table shows the prices of the digital downloads that are available.

Downloads	Cost
Single Song	\$0.89
Music Album	\$10.49
Game	\$2.89
Ring-tone	\$0.49

- a. How many games could Ava purchase with the gift card?
- b. Ava decides to buy 1 music album and spend the rest on games. How many games could Ava buy? How much money would be left on the gift card?
- c. The music album Ava decides to buy has 12 songs. Is it cheaper to buy the music album or the 12 songs as singles? What is the difference in cost?

**Additional Practice** *(continued)***Investigation 1****Decimal Operations**

8. The table shows the prices for four types of granola.

Type	Weight	Cost
Triple Berry	16 oz	\$5.99
Chocolate Cherry	24 oz	\$8.25
Honey Pecan	12 oz	\$4.49
Seeds and Oats	10 oz	\$3.99

- a. Which granola is the least expensive per ounce? Most expensive per ounce? Explain.
- b. How much would 32 ounces of each granola cost?
- c. How much of each granola could be purchased with \$10.00? Round to the nearest ounce.
- d. Jamie mixes 16 ounces of Triple Berry granola with 10 ounces of Seed and Oats. What is the unit rate of mixture?

**Additional Practice** *(continued)***Investigation 1****Decimal Operations**

9. The table shows the distances and winning times of a sprint triathlon.

Event	Distance	Winner	2 <sup>nd</sup> place	3 <sup>rd</sup> place
Swim	0.750 kilometer	10.3 minutes	10.2 minutes	11.1 minutes
Bike	20 kilometer	33.2 minutes	34.2 minutes	34.0 minutes
Run	5 kilometer	19.1 minutes	19.5 minutes	20.1 minutes

- a. What was the winner's total time?
- b. By how many minutes did the winner finish before the person in second place?
- c. To the nearest thousandth of a kilometer per minute, how much faster was the swimming speed of the second-place finisher than the third-place finisher?
- d. How much faster was the bike speed of the third-place finisher than her swimming speed? than her running speed?

**Additional Practice** *(continued)***Investigation 1****Decimal Operations**

10. The table shows the populations and land areas of four towns. Population density is the ratio of population to land area. Find the population density for each town. Round to the nearest tenth.

Town	Population	Land Area (square miles)	Population Density (people per square mile)
Robins	3,345	5.8	
Highview	7,145	4.2	
Parkville	1,041	9.8	
Vernon	4,583	3.5	

11. The table shows the numbers of files and folder sizes for three folders on a computer.

- a. Find the average size for each type of file. Round to the nearest thousandth.

Folder Name	Number of Files	Total Folder Size (gigabytes)	Average File Size (gigabytes)
Pictures	1,458	14.64	
Music	230	1.6	
Movies	22	3.08	

- b. How many times greater is the average file size for a movie file compared to a music file?

- c. Rosa has 2,105 music files in a folder on her computer. What would you estimate the folder size in gigabytes to be? Explain your reasoning.

- d. A folder with pictures is 2.75 gigabytes. About how many files would you expect to find in the folder? Explain your reasoning.

# Additional Practice: Digital Assessments

## Investigation 1

### Decimal Operations

12. Katina walks 2.5 miles each morning. Eddy walks 3.1 miles each evening. Circle the numbers that make each statement true.

a. Katina walks  $\left[ \begin{array}{c} 2.5 \\ 7.5 \\ 9.1 \\ 12.5 \\ 15.5 \end{array} \right]$  miles after 5 days.

b. After 5 days, Eddy walks about

$\left[ \begin{array}{c} 0.5 \\ 2.5 \\ 5.5 \end{array} \right]$  miles more than Katina.

13. Erin bought four types of cheeses from a farmer's market. The table shows the type, weight, and cost of the cheese.

American	3 pounds	\$12.87
Cheddar	2 pounds	\$10.58
Muenster	1.5 pounds	\$5.28
Swiss	4 pounds	\$17.16

Which types of cheese cost a little more than \$4 per pound? *Select all that apply.*

- American
- Cheddar
- Muenster
- Swiss

14. Using only the numbers and symbols on the tiles provided below, fill in each space to write an expression that can be used to solve each problem.

a. Julia, Tomas, and Lyn want to buy their friend a birthday present. Julia has \$8.42, Tomas has \$3.54, and Lyn has \$6.51. How much money do they have altogether to purchase a present?

3.54	6.51	8.42	+	-	×	÷

b. Kai's puppy, Shadow, received 3 vaccines at his first veterinarian appointment. One of the vaccines cost \$10.25 and the other two cost \$8.49 each. How much do the vaccines cost in all?

2	8.49	10.25	+	-	×	÷

## Skill: Unit Rates

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### Investigation 1

#### Decimal Operations

**Determine the unit rates represented by each situation.**

1. Zephra ran 2 miles in 0.25 hour.
2. It takes Toni 20 minutes to drive 5.2 miles to school.
3. A 2.5-pound bag of apples is priced at \$5.59.
4. The curtain rod advertised has a length of 48 inches or 122 centimeters.
5. The bank exchanged 10 U.S. dollars for 8.84 euro.
6. Branson earned \$61.33 for 5.5 hours of work.
7. The border on 3.5 scarves used 115.5 inches of ribbon.
8. The car traveled 311.6 miles on 19.0 gallons of gas.







**Additional Practice****Investigation 2****Decimal Operations**

1. James used a calculator to complete each computation. He forgot to write the decimal point in each answer. Write the correct answer for each computation.

Problem	Answer Without Decimal Point	Correct Answer
$5.7 + 6.09 + 4.2$	1599	
$3.007 - 2.9 + 35.054$	35161	
$14.5 - 8.07 - 6.2$	23	

2. Students used a computer program to test the time it took them to react to a green ball that appeared on a computer screen. Here are the reaction times for two students, a girl with initials LG and a boy with initials MC.

LG's data values:

Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
1.08 sec	0.94 sec	0.64 sec	1.00 sec	0.94 sec

MC's data values:

Trial 1	Trial 2	Trial 3	Trial 4	Trial 5
1.25 sec	2.48 sec	1.15 sec	1.34 sec	1.47 sec

- Compute the difference in LG's and MC's data values for each trial.
- Find the sum of LG's data values.
- Find the sum of MC's data values.
- What are some statements you can make to compare the data from each of the two students?

**Additional Practice** *(continued)***Investigation 2****Decimal Operations**

Find the value of  $n$  that makes each sentence true. Then write the addition and subtraction fact family for the sentence.

3.  $2.3 + 4.09 = n$

4.  $1.009 + 12.87 = n$

5.  $19.81 - 12.25 = n$

6.  $13.7 - 10.34 = n$

7.  $n + 3.8 = 12.65$

8.  $n - 2.4 = 5$

**Additional Practice** *(continued)***Investigation 2****Decimal Operations**

Find the value of  $n$  that makes each sentence true. Then write the addition and subtraction fact family for the sentence.

9.  $n + 8.4 = 15$

10.  $n - 7.62 = 1.4$

11.  $1.6 + n = 7.65$

12.  $17.18 - n = 4.32$

# Additional Practice: Digital Assessments

## Investigation 2

### Decimal Operations

**13.** Which are in the fact family for  $2.3 - n = 1.5$ ?

*Select all that apply.*

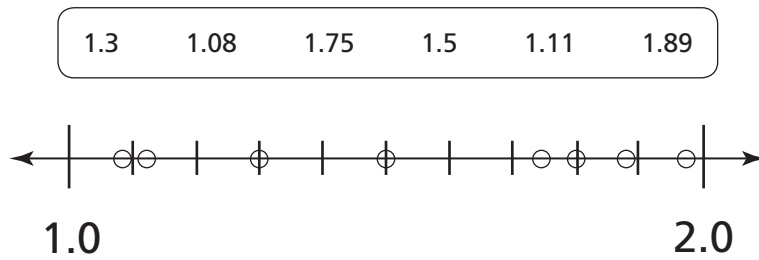
- $2.3 = 1.5 + n$
- $2.3 + n = 1.5$
- $n - 2.3 = 1.5$
- $2.3 = n + 1.5$
- $1.5 - n = 2.3$

**14.** Circle the number that makes each statement true.

a.  $15.5 + \begin{matrix} 4.73 \\ 5.37 \\ 5.73 \\ 15.23 \\ 37.73 \end{matrix} = 21.23$

b.  $2.3 + 12.64 + 8.281 = \begin{matrix} 9.568 \\ 9.775 \\ 11.845 \\ 22.121 \\ 23.221 \end{matrix}$

**15.** Shade and label the circles to show the correct location of each decimal on the number line.



**16.** Order the decimals from smallest to largest.

- 4.3
4.303
4.03
  
4.33
4.033
4.003

, 
 , 
 , 
 , 
 ,

**Skill: Adding and Subtracting Decimals****Investigation 2****Decimal Operations****First estimate. Then find each sum or difference.**

1.  $0.6 + 5.8$

2.  $2.1 + 3.4$

3.  $3.4 - 0.972$

4.  $3.1 - 2.076$

5.  $8.13 - 2.716$

6.  $5.91 + 2.38$

7.  $3.086 + 6.152$

8.  $4.7 - 1.9$

9.  $9.3 - 3.9$

10.  $5.2 - 1.86$

11.  $15.98 + 26.37$

12.  $9.27 + 15.006$

13.  $5.9 - 2.803$

14.  $15.7 - 8.923$

15.  $4.19 - 2.016$

16.  $14.75 - 6.9264$

17.  $5.1 + 4.83 + 9.002$

18.  $3 + 4.02 + 8.6$

## Skill: Adding and Subtracting Decimals *(continued)*

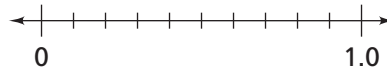
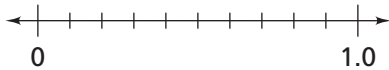
### Investigation 2

#### Decimal Operations

Order each set of decimals on a number line.

19. 0.2, 0.6, 0.5

20. 0.26, 0.3, 0.5, 0.59, 0.7



Use the table at the right for Exercise 21–23.

21. Find the sum of the decimals given in the chart.  
What is the meaning of this sum?

**Age of Workers Earning Hourly Pay**

Age of Workers	Part of Work Force
16–19	0.08
20–24	0.15
25–34	0.29
35–44	0.24
45–54	0.14
55–64	0.08
65 & over	0.02

22. What part of the hourly work force is ages 25–44?
23. Which three age groups combined represent about one-fourth of the hourly work force?

Find the missing numbers.

$$\begin{array}{r} 24. \quad 12.84 \\ + \quad n \\ \hline 30.123 \end{array}$$

$$\begin{array}{r} 25. \quad \quad n \\ - \quad 23.572 \\ \hline 41.617 \end{array}$$

26.  $n - 16.321 = 20.2$

27.  $3.02 + n - 6.1 = 12.74$

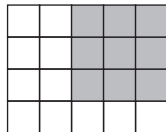


## Additional Practice

### Investigation 3

#### Decimal Operations

- Josh and his father are estimating how much gas they will need for a car trip. They know that the car gets 39 miles per gallon. Estimate how many gallons of gas they will need for a trip of 778 miles. Explain your reasoning.
- The diagram below shows a rectangular plot of land cut into squares of 2.65 acres each.



- What is the acreage of the shaded region?
  - What is the acreage of the unshaded region?
  - In this area, land sells for \$2,475 per acre.
    - What would the price of the shaded region be?
    - What would the price of the unshaded region be?
  - In this area, owners pay property taxes of \$13.50 per thousand dollars of property value. What is the total annual property tax for the shaded and unshaded regions combined? Show your work.
- Use the number sentence  $123 \times 4 = 492$  to help you solve the following:
 

a. $12.3 \times 4$	b. $1.23 \times 4$	c. $0.123 \times 4$
d. $0.123 \times 40$	e. $0.123 \times 400$	f. $0.123 \times 4000$

**Additional Practice** *(continued)***Investigation 3****Decimal Operations**

4. Use the number sentence  $63 \times 501 = 31,563$  to help you solve the following:

a.  $6.3 \times 5.01$

b.  $6.3 \times 0.501$

c.  $6.3 \times 50.1$

d.  $0.63 \times 5.01$

e.  $0.63 \times 501$

f.  $0.63 \times 0.501$

5. Estimate each product. Explain.

a.  $2.4 \times 0.8$

b.  $5.21 \times 1.1$

c.  $1.29 \times 8$

6. For (a)–(c) in Exercise 5 above, find the product. Show your work.

7. Compute each product. What patterns do you notice?

a.  $5.5 \times 9.9$

b.  $5.5 \times 9.99$

c.  $5.5 \times 9.999$

d.  $5.5 \times 9.9999$

**Additional Practice** *(continued)***Investigation 3****Decimal Operations**

8. Jason and his mother are re-tiling the kitchen floor. The area of the kitchen floor is 96.75 square feet. Each tile has an area of 1.25 square feet. How many tiles will Jason and his mother need to tile the kitchen?
9. The student concession stand buys 6.5 pounds of unpopped popcorn for \$12.75. What is the price per pound of the popcorn?
10. For each of the following, decide if the quotient is less than 1 or greater than 1.
- a.  $9.22 \div 2.8$       b.  $0.9 \div 0.3$       c.  $12.6 \div 11.8$       d.  $5.6 \div 9.9$
11. Compute each quotient. What patterns do you notice?
- a.  $6.3 \div 9$ ,  $6.3 \div 0.9$ ,  $6.3 \div 0.09$ ,  $6.3 \div 0.009$
- b.  $6.3 \div 9$ ,  $0.63 \div 9$ ,  $0.063 \div 9$ ,  $0.0063 \div 9$
- c.  $6.3 \div 9$ ,  $0.63 \div 0.9$ ,  $0.063 \div 0.09$ ,  $0.0063 \div 0.009$

**Additional Practice** *(continued)***Investigation 3****Decimal Operations**

12. Use the number sentence  $936 \div 12 = 78$  to help you solve the following:

a.  $936 \div 1.2$

b.  $93.6 \div 12$

c.  $9.36 \div 12$

d.  $0.936 \div 12$

e.  $936 \div 0.12$

f.  $936 \div 0.012$

13. Use the number sentence  $492 \div 4 = 123$  to help you solve the following:

a.  $492 \div 40$

b.  $492 \div 400$

c.  $492 \div 4000$

d.  $49.2 \div 4$

e.  $4.92 \div 4$

f.  $0.492 \div 4$

14. Find each quotient.

a.  $4.5 \div 0.3$

b.  $64.4 \div 0.04$

c.  $12.9 \div 20$

d.  $12.9 \div 0.2$

e.  $1.05 \div 2.1$

f.  $18.8 \div 4$

# Additional Practice: Digital Assessments

## Investigation 3

### Decimal Operations

15. Place a decimal point in the appropriate place in the product.

a.  $0.64 \times 0.2 =$

0 1 2 8

b.  $1.06 \times 10.4 =$

0 1 1 0 2 4

c.  $3.54 \div 0.006 =$

0 0 5 9 0 0

16. Circle the number that makes the statement true.

a.  $4.32 \div 1.8 =$   $\left[ \begin{array}{l} 0.42 \\ 2.4 \\ 2.52 \\ 6.12 \\ 7.776 \end{array} \right]$

b.  $0.64 \times 1.25 =$   $\left[ \begin{array}{l} 0.512 \\ 0.61 \\ 0.8 \\ 1.89 \\ 1.95 \end{array} \right]$

c.  $2.1 \times 0.55 =$   $\left[ \begin{array}{l} 0.26 \\ 1.155 \\ 1.55 \\ 2.65 \\ 3.81 \end{array} \right]$

17. Write each expression in the appropriate box.

$3.25 \div 2.78$

$2.81 \div 3.4$

$5.1 \div 5.01$

$1.25 \div 4.1$

$5.2 \div 5.72$

**Quotient Greater than 1**

**Quotient Less than 1**

**Skill: Multiplying Decimals****Investigation 3****Decimal Operations****Place the decimal point in each product.**

1.  $4.3 \times 2.9 = 1247$

2.  $0.279 \times 53 = 14787$

3.  $5.90 \times 6.3 = 3717$

**Find each product.**

4.  $43.59 \times 0.1$

5.  $246 \times 0.01$

6.  $726 \times 0.1$

7. 
$$\begin{array}{r} 5.342 \\ \times 13 \\ \hline \end{array}$$

8. 
$$\begin{array}{r} 0.19 \\ \times 0.05 \\ \hline \end{array}$$

9. 
$$\begin{array}{r} 6.4 \\ \times 0.09 \\ \hline \end{array}$$

10. 
$$\begin{array}{r} 240 \\ \times 0.02 \\ \hline \end{array}$$

11. 
$$\begin{array}{r} 43.79 \\ \times 42 \\ \hline \end{array}$$

12. 
$$\begin{array}{r} 0.72 \\ \times 0.43 \\ \hline \end{array}$$

**Skill: Multiplying Decimals** *(continued)***Investigation 3****Decimal Operations**

Use mental math to find each product.

13.  $5.97 \times 100$

14.  $4 \times 0.2 \times 5$

15.  $3 \times (0.8 \times 1)$

16.  $5.23 \times 100$

17.  $0.38 \cdot 1,000$

18.  $(5)(4.2) \times 10$

Write a number sentence you could use for each situation.

19. A pen costs \$0.59. How much would a dozen pens cost?

20. A mint costs \$0.02. How much would a roll of 10 mints cost?

21. A bottle of juice has a deposit of \$0.10 on the bottle. How much deposit money would there be on 8 bottles?

22. An orange costs \$0.09. How much would 2 dozen oranges cost?

Use  $<$ ,  $=$ , or  $>$  to complete each statement.

23.  $2.8 \times 10 \square 26 \cdot 100$

24.  $38.6 \cdot 10 \square 2 \cdot 38.6 \cdot 5$

25.  $3.1 \times 10 \square (0.5 \cdot 0.2)3.1$

26.  $8.3 \cdot 10 \cdot 1 \square 8.3 \times 100$

**Skill: Dividing Decimals****Investigation 3****Decimal Operations****Use mental math to find each quotient.**

1.  $7.8 \div 10$

2.  $8.91 \div 100$

3.  $10 \overline{)46.3}$

4.  $0.6 \div 10$

5.  $1.45 \div 10$

6.  $62.3 \div 100$

**Find each quotient.**

7.  $0.4 \div 0.02$

8.  $3.9 \div 0.05$

9.  $0.2 \overline{)26}$

10.  $0.4 \overline{)1.08}$

11.  $0.68 \div 0.2$

12.  $0.02 \overline{)0.06}$

13.  $14 \overline{)889}$

14.  $0.09 \overline{)0.108}$

15.  $0.04 \overline{)0.024}$

**Use  $<$ ,  $=$ , or  $>$  to complete each statement.**

16.  $56 \div 100 \square 5.6 \div 100$

17.  $\$16.20 \div 10 \square \$162.00 \div 100$



**Skill: Dividing Decimals** *(continued)***Investigation 3****Decimal Operations****Find each quotient.**

18.  $1.8 \div 6$

19.  $16 \overline{)3.2}$

20.  $17 \overline{)5.1}$

21.  $9 \overline{)21.6}$

22.  $15 \overline{)123}$

23.  $108 \div 5$

24.  $50 \overline{)17.5}$

25.  $24 \overline{)120.06}$

26.  $9 \overline{)11.24}$

**Skill: Dividing Decimals** *(continued)***Investigation 3****Decimal Operations****Solve.**

27. A package of 25 mechanical pencils costs \$5.75. How much does each pencil cost?
28. A sales clerk is placing books side by side on a shelf. She has 12 copies of the same book. If the books cover 27.6 inches of the shelf, how thick is each book?
29. The salt content in the Caspian Sea is 0.13 kilograms for every liter of water. How many kilograms of salt are in 70 liters?

**Find each quotient. Identify each as a terminating or repeating decimal.**

**30.**  $2.5 \div 0.08$

**31.**  $9.6 \div 0.5$

**32.**  $0.25 \div 0.03$





**Additional Practice** *(continued)***Investigation 4****Decimal Operations**

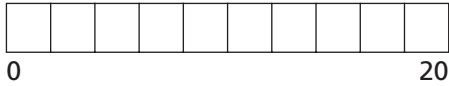
3. Last Saturday, Aaron had lunch at a fast-food restaurant. He ordered the lunch special for \$3.29. If sales tax is 6%, how much did Aaron pay for the lunch special?
4. Skateboards are on sale at Susan's Skateshop for 30% off.
- Express the discount as a fraction.
  - If the regular price of a skateboard is \$89, what is the discounted price?
  - What is the total cost of the discounted skateboard in part (b) if sales tax is 4.5%?
5. Ms. Miller is charged \$86 to get her hair cut and highlighted. If she wants to give the stylist a 15% tip, what is her total cost with tip?
6. Jacque and his three friends go out for dinner. They have a coupon for a 25% discount. The bill before the discount is \$127.80.
- What is the discounted cost of the meals?
  - After adding a 15% tip to the discounted cost, they divide the total equally. How much should each person pay? Round to the nearest cent.

# Additional Practice: Digital Assessments

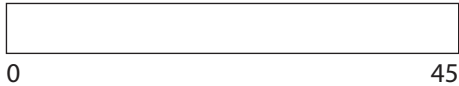
## Investigation 4

### Decimal Operations

7. a. Shade the bar to represent 45% of 20.



b. Shade the bar to represent 60% of 45.



8. The cost of a shirt is \$16 and the shirt is 20% off. The tax rate is 5%. Circle the correct answer.

- a. The price after the discount is  $\left[ \begin{array}{l} \$12.80 \\ \$13.44 \\ \$15.20 \\ \$16.80 \\ \$19.20 \end{array} \right]$ .

- b. The price after tax is  $\left[ \begin{array}{l} \$12.80 \\ \$13.44 \\ \$16.25 \\ \$19.20 \\ \$20.00 \end{array} \right]$ .

9. Using only the numbers and symbols on the tiles provided below, fill in each box to write an expression.

Sally wrote an expression to find the total cost of a computer with a price of \$450 and a tax rate of 7.5%. What could the expression have been?

450	0.075	+	-	×	÷



**Skill: Using Percents** *(continued)*

**Investigation 4**

**Decimal Operations**

5. A jacket costs \$94.95. It is on sale for 30% off. Estimate the sale price.
6. A restaurant offers a 13% discount on chicken wings on Mondays. On Friday, Travis eats \$7.95 worth of chicken wings. How much would those wings cost on Monday?
7. Ian went out to dinner last night and remembers leaving a \$6.50 tip. The tip was 20% of the cost of dinner. What was the cost of dinner before tip?
8. A store is selling a sweater on sale for \$17.90. The regular price is \$22.95. What percent of the regular price is the sale price?



**Skill: Using Percents** *(continued)***Investigation 4****Decimal Operations****Find each amount.**

9. 40% of 70                      10. 25% of 80                      11. 50% of 80
12. 40% of 200                      13. 5% of 80                      14. 75% of 200
15. 14% of 120                      16. 30% of 180                      17. 62.5% of 24

**Solve.**

18. A farmer raised a watermelon that weighed 20 pounds. From his experience with raising watermelons, he estimated that 95% of the watermelon's weight is water.
- a. In pounds, how much of the watermelon is water?
- b. In pounds, how much of the watermelon is *not* water?
- c. The watermelon was shipped off to market. There it sat, until it had dehydrated (lost water). If the watermelon is still 90% water by weight, what percent of it is not water?
19. A bicycle goes on sale at 75% of its original price of \$160. What is its sale price?