

180 DAYSTM of Math for Seventh Grade

7



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180 DAYSTM of **Math** for Seventh Grade



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Standards

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Math Education Today

As many adults can attest, whether they are teaching in a classroom or supporting children learning math at home, mathematics does not seem to be the same as how they learned it growing up. Instruction today focuses on critical thinking, problem solving, and using a variety of strategies to find answers. Current mathematics instruction might look different, but math still focuses on helping students become skillful problem solvers. Students are encouraged to think like mathematicians. Mathematics instruction seeks to build students' mathematical reasoning skills and to ensure students can apply concepts to real-world problems.

Prior to the 1990s, individual states created their own standards for student learning. This created a disparity in achievement among graduating high school seniors. To help make student education more consistent across the country, the National Governor's Association and the Council of Chief State School Offices set out to develop national standards with the intent of improving student learning and achievement (Marchitello and Wilhelm 2014). Over time, these standards were honed, improved, and updated using cognitive science and research regarding children's learning.

That research became a cornerstone in the philosophy of current math education—making sure students have a conceptual understanding of something before moving to the more abstract ways to solve problems. In the past, students might have learned only one way to solve a math problem. Research from Vanderbilt University shows it is more beneficial to introduce students to more than one problem-solving strategy (Durkin, Rittle-Johnson, and Star 2017). Knowing multiple strategies allows students to better understand a concept and helps them find efficient approaches that make the best sense to them.

Though mathematics education may look different today, the solutions to mathematical problems remain the same. Students today are taking time to think deeply, reason abstractly, and understand numbers in ways that will prepare them to be successful in college and their careers.

Refining Math Skills

Children learn math best when they can see, organize, and interpret through tools or models. Learning begins with concrete representations of mathematical concepts (Cathcart et al. 2014). Manipulatives, such as counters, base-ten blocks, and coins, are effective tools for students to use to build concrete representations. Students can then progress to drawing pictorial models of concrete objects, such as tallies, circles, and dots. These steps prepare students to learn the abstract qualities of mathematical concepts, making connections between the objects, pictures, and equations or formulas.

Problem-solving is the context in which students can extend current understanding to new situations and make connections between mathematical ideas and the real world. Rote practice in mathematics limits students' creativity and hinders their ability to problem solve and apply math in real-life situations. Problems are easier to solve when students can draw upon their practical, real-world knowledge (McNeil and Jarvin 2007).

Math Education Today *(cont.)*

Building Math Fluency

There is an emphasis on national mathematics standards for students to be able to solve math problems accurately and efficiently. While this mathematical fluency is certainly expected, it is important to realize that conceptual understanding is the basis for developing fluency. When a student understands combinations of tens, developed through many experiences using a ten frame, they can extend that understanding to learn more difficult addition facts. For example, a student can think about $9 + 6$ as taking 1 from the 6 and adding it to the 9, so the fact now becomes $10 + 5$, which equals 15. To assess students' fluency, evaluate their flexibility, accuracy, efficiency, and appropriate strategy use when solving math problems.



Learning math is not a “one and done” achievement. A spiral curriculum model was introduced by psychologist Jerome Bruner in 1960, and continuing research agrees that it greatly benefits students (Ireland and Mouthaan 2020). A spiral approach means concepts are spread out over time and reviewed frequently. When students have repeated exposure to a skill, they are more likely to understand and remember it.

Research to Practice

180 Days of Math incorporates a balanced approach to develop both conceptual understanding and mathematical fluency.

- Practice pages encourage students to find and use manipulatives, such as those provided in the digital resources, when solving problems.
- Instructional pages and practice pages provide students numerous opportunities to learn concepts through visual models and showcase their understanding by drawing their own pictorial representations.
- A variety of rich math tasks, or word problems, allow students to apply mathematical concepts and operations to real-world situations.
- Instructional pages and sidebars on practice pages model a variety of strategies to help students build proficiency.
- Five-day spiral reviews at the end of each unit touch on concepts taught throughout the entire book up to that point, not just the current unit.

How to Use This Resource

Instructional Pages

The math concepts in this resource are organized into five units. Each unit is divided into sections that focus on specific standards-based topics. To introduce mathematical concepts, there are instructional pages at the beginnings of the sections. These pages support students so they can complete the practice pages with confidence and accuracy.

An overview of big ideas, important concepts, and key vocabulary essential to the upcoming pages is explained in grade-appropriate language.

Example problems model problem-solving steps and strategies that students can follow.

Students answer guiding questions, attempt the modeled strategies, and solve problems with support.

UNIT 1

Learn about Ratio and Percent Problems

Percents are part-to-whole comparisons in which the whole amount is 100.
Ratios are comparisons and can be part-to-part or part-to-whole comparisons. You can use proportional relationships to solve percent problems. Set them up like this.

$$\frac{\text{Part}}{\text{Whole}} = \frac{\text{Percent}}{100}$$

Example: What is 25% of 90?
 Since 90 is the total amount, and 25 is the percent, we can set it up as shown: $\frac{x}{90} = \frac{25}{100}$
 To solve this, you can cross multiply, or multiply diagonally.
 $90 \cdot 25 = 100 \cdot x$
 $2,250 = 100x$
 To solve this, we divide 2,250 by 100.
 $x = 22.5$

Total with Tip

The Howard family went out to dinner, and the bill was \$65. They want to leave a 20% tip. How much should they leave for the tip? What is the total amount the Howards have to pay, including the tip?

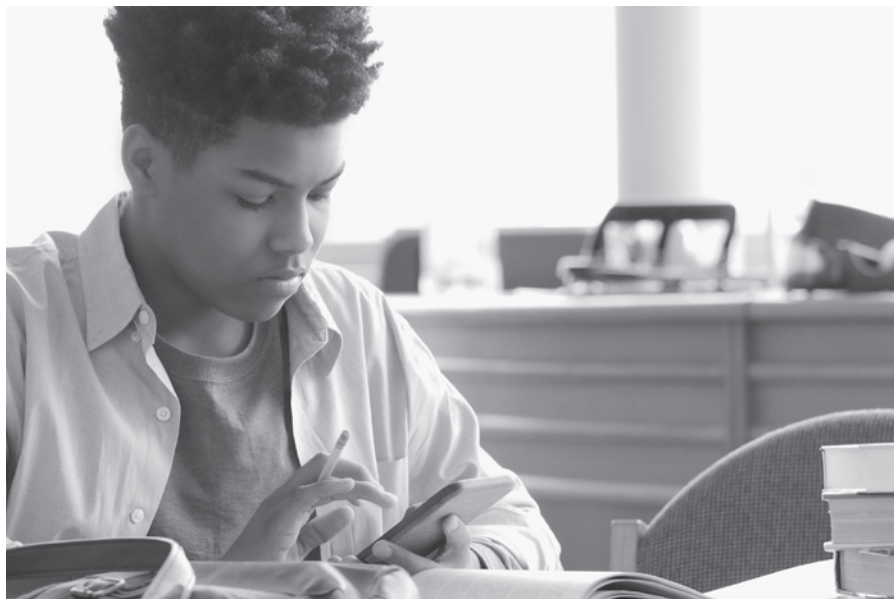
- Set up a proportional relationship. $\frac{x}{65} = \frac{20}{100}$
- Multiply diagonally. $65 \cdot 20 = 100 \cdot x$
- Solve the equation.
 $100x = 1,300$
 $x = 13$
- The Howard family should leave \$_____ for a tip.
- To find the total amount the Howard family has to pay, add \$65 + the tip. What is the total amount they must pay?
 \$_____

Discounted Price

Teddy has a coupon for 10% off a new baseball hat. The original price of the hat is \$25. What is the discounted price?

- Set up a proportional relationship. $\frac{x}{25} = \frac{10}{100}$
- Cross multiply (multiply diagonally). $100 \cdot x = 25 \cdot 10$
- Solve the equation.
 $100x = 250$
 $x = 2.5$ or \$2.50
- Subtract the original price by the discounted amount to find the new price.
 \$ 25 - \$2.50 = _____

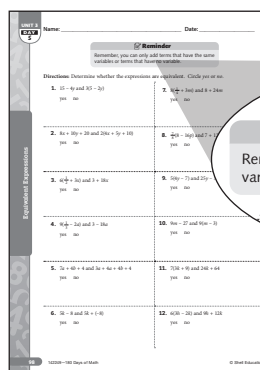
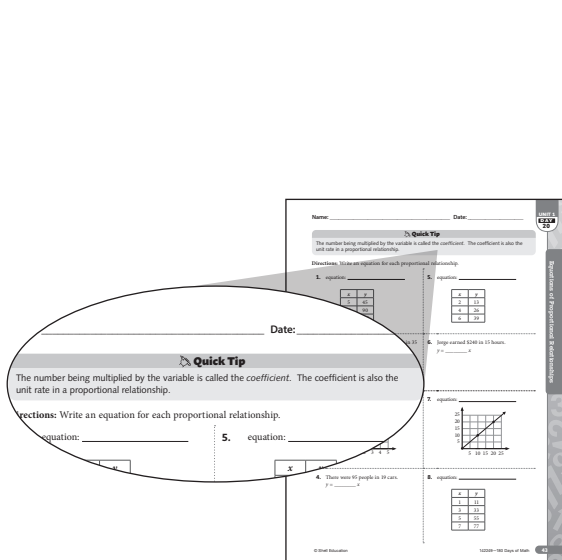
44
142249—180 Days of Math
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How to Use This Resource *(cont.)*

Practice Pages

Practice pages are provided for every day of the school year to reinforce grade-level concepts and skills. The practice pages can be easily prepared and implemented as part of a morning routine, at the beginning of each math lesson, or as homework. Each day's math skills are aligned to state mathematics standards. (A chart with these standards can be found on pages 226–227.)



Remember, you can only add terms that have the same variables or terms that have no variable.

Whether the expressions are equivalent. Circle yes or no.

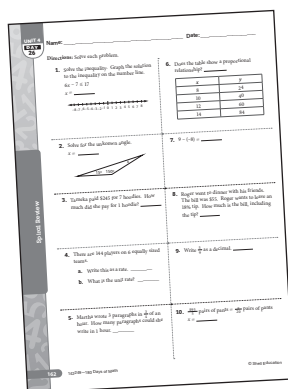
7. $8x + 1$

Quick Tips, Reminders, and Example Problems provide additional support for students.

Review Pages

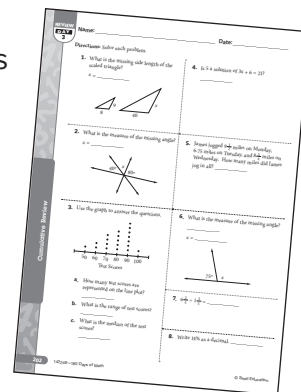
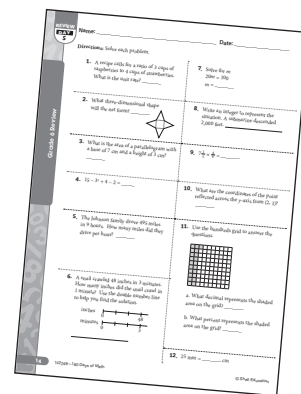
Review is embedded throughout this resource to support students' retention of mathematical concepts.

The first section of practice pages in this resource reviews the math concepts from the previous grade. This activates students' prior knowledge after summer break and offers teachers and families a quick view of students' grade-level readiness.



Spiral review pages at the end of each unit include additional practice in the concepts learned. This helps ensure that students' skills and content knowledge remain fresh, and it helps them build fluency as the year goes on.

A cumulative review serves as the last section of practice pages in this resource, allowing students to showcase their understanding of all grade-level math concepts practiced throughout the year.

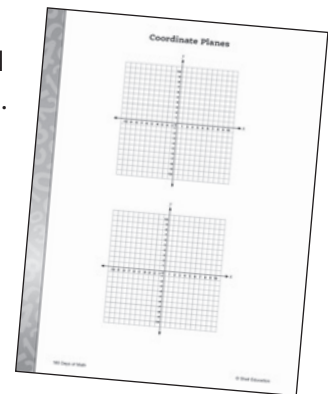
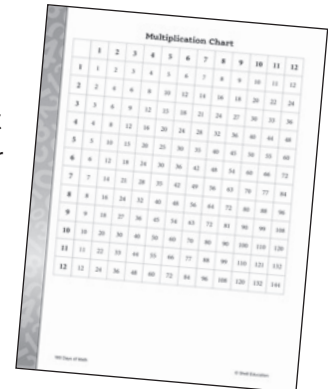


How to Use This Resource *(cont.)*

Digital Math Learning Resources

A variety of math resources are provided digitally (see page 248 for instructions on how to download these pages). These quick references and tools support students in understanding and solving many different problem types. You may choose to print the resources ahead of time or as needed. Some of the resources available include the following:

- **Multiplication Chart**—This helps students quickly reference math facts if they have not committed them to memory. This allows students to continue learning grade-level content.
- **Number Lines**—These can help students add and subtract with positive and negative numbers, multiply and divide with fractions, and understand equivalent ratios.
- **Coordinate Planes**—Students can use these to practice with ordered pairs and to better visualize equations and distances between points.
- **Measurement Conversions**—When working with ratios and measurement conversions, students will find this a convenient resource to have on hand.



Instructional Options

180 Days of Math is a flexible resource that can be used in various instructional settings for different purposes.

- Use the student pages as daily warm-up activities or as review.
- Work with students in small groups, allowing them to focus on specific concepts and skills. This setting also lends itself to partner and group discussions about problem-solving strategies.
- Student pages in this resource can be completed independently during center times and as activities for early finishers.



How to Use This Resource *(cont.)*

Diagnostic Assessment

The practice pages in this book can be used as diagnostic assessments. These activity pages require students to think critically, use problem-solving strategies, and utilize mathematical skills and content knowledge. (An answer key is provided starting on page 229.)

The diagnostic analysis tools included in the digital resources allow for quick evaluation and ongoing monitoring of student work. See at a glance which math topics students may need to focus on further to develop proficiency.

Analysis sheets are provided as *Microsoft Word*® files in the digital resources. There is a *Class Analysis Sheet* and an *Individual Analysis Sheet*. Use the file that matches your assessment needs. After each review section, record how many answers each student got correct on the analysis sheet. Then, analyze the data on the analysis sheet to determine instructional needs for your child or class.

[illegible]

Using the Results to Differentiate Instruction

Once results are gathered and analyzed, use the data to inform differentiation. The data can help determine which concepts are the most difficult for students and which students need additional instructional support and continued practice. The results of the diagnostic analysis may show that the class is struggling with a particular topic.

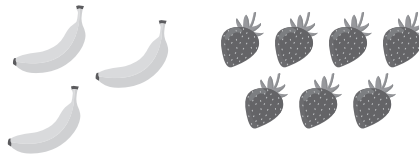
The results of the diagnostic analysis may also show that an individual or small group of students is struggling with a particular concept or group of concepts. Consider pulling aside these students while others are working independently to instruct further on the concept(s). You can also use the results to help identify individuals or groups of proficient students who are ready for enrichment or above-grade-level instruction. These students may benefit from independent learning contracts or more challenging activities.

Name: _____ Date: _____

Directions: Solve each problem.

1. Write the ratio of bananas to strawberries in three ways.

- a. _____
b. _____
c. _____



2. Thomas cleaned $\frac{2}{5}$ of the garage. Mauricio cleaned 0.5 of the garage. Henry cleaned the rest of the garage. What percent of the garage did Henry clean? _____

3. Write an equivalent expression.

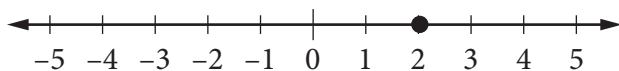
$$5x + 2y + 2x + 3y = \underline{\hspace{2cm}}$$

4. Gina wants to find the volume of a box. The box is a rectangular prism and measures 5 inches by $2\frac{1}{2}$ inches by 3 inches. What is the volume (V) of the box?

$$V = \underline{\hspace{2cm}} \text{ cubic inches}$$

5. $19 - (-8) = \underline{\hspace{2cm}}$

6. Use the number line to answer the questions.



- a. What is the opposite of the point graphed on the number line? _____
b. What is the absolute value of the point graphed on the number line? _____

7. What is the median of this set of data?

$$40, 50, 60, 70, 80 \quad \underline{\hspace{2cm}}$$

8. $5^2 \div 5 \cdot 2 = \underline{\hspace{2cm}}$

9. Solve for d .

$$31d = 93$$

$$d = \underline{\hspace{2cm}}$$

10. In which quadrant on a coordinate plane is the point $(-3, 4)$ located?

11. Sara bought a box of 24 ceramic mugs for \$54. What is the price of one mug?

12. Which is the better deal? Circle it.

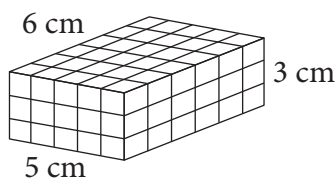
- a. 12 bottles of water for \$11.88
b. 28 bottles of water for \$28.28

Name: _____ Date: _____

Directions: Solve each problem.

1. What is the volume (V) of the prism?

$V =$ _____



2. $41 \overline{)10,086}$

3.
$$\begin{array}{r} 125 \\ \times 13.3 \\ \hline \end{array}$$

4. What is the area of a rectangle that measures 4 m by 7 m? _____

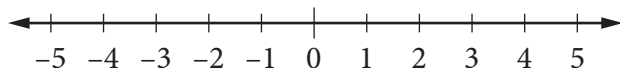
5. Solve for x .

$$5x = 230$$

$$x =$$

6. Graph the inequality on the number line.

$$x > 4$$



7. Can side lengths of 3, 5, and 9 form a triangle? How do you know?

8. What is the least common multiple (LCM) of 5 and 30? _____

9. Write an expression for *a number decreased by 3*. _____

10. $-9 \div 3 =$ _____

11. Use the table to answer the questions.

x	y
0	4
1	5
2	6
3	7

- a. Is the relationship between x and y additive or multiplicative? _____

- b. Write an equation to represent the table. $y =$ _____

12. Write 24 as a product of prime factors. _____

Name: _____ Date: _____

Directions: Solve each problem.

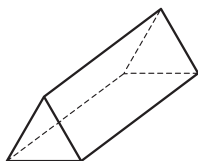
1. Make a stem and leaf plot of the data.

22, 22, 23, 24, 28, 30, 35, 42, 47, 51, 62

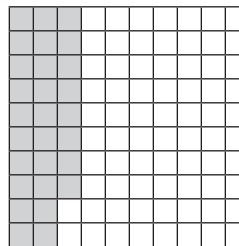
Stem	Leaf

6.
$$\begin{array}{r} 140.3 \\ \times 11.3 \\ \hline \end{array}$$

2. Draw a net for the triangular prism.



7. Use the hundreds grid to answer the questions.



- a. What decimal represents the shaded area on the grid?

- b. What percent represents the shaded area on the grid?

3. The Rocker family drove 1,760 miles in 32 hours. How many miles did they drive in 1 hour? _____

8. A triangle has a base of 10 cm and a height of 4 cm. What is the area?

4. Find the unit rate, and use it to complete the table.

number of oranges	cost
1	
15	\$12.75
25	

9. 4 kilometers = _____ meters

5. Li finished 10% of the running race. He ran 3 miles. How long is the race? Use the tape diagram to help you.



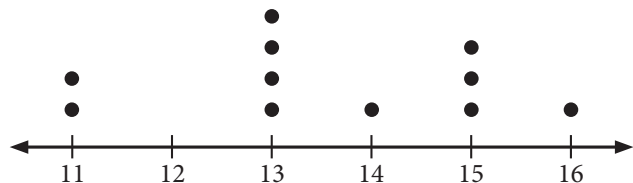
10. Write an integer to represent the situation.

An elevator went up 6 floors.

Name: _____ Date: _____

Directions: Solve each problem.

Use the dot plot to answer questions 1 through 3.



1. What is the median of the data on the dot plot? _____

2. What is the mode of the data on the dot plot? _____

3. What is the range of the data on the dot plot? _____

4. List the factors of 36 and 42. Circle the greatest common factor.

36: _____

42: _____

5. Look at the table. Is the relationship between x and y proportional? _____

x	y
1	4
2	8
3	12
4	16

6. Rectangle $ABCD$ is graphed on a coordinate plane. Three of the points are $A(-4, 2)$, $B(4, 2)$, and $C(4, -2)$. What are the coordinates of point D ? _____

7. $-90 \div 9 =$ _____

8. Ike bought 4 shirts for \$28. What was the price of 1 shirt? _____

9. Write an equivalent expression using the Distributive Property.

$14 + 20 =$ _____ ($\quad + \quad$)

10. $7\frac{1}{2} \times \frac{5}{10} =$ _____

11. 4 hours = _____ minutes

12. What is 25% as a decimal? _____

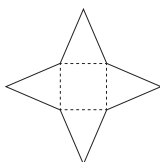
Name: _____ Date: _____

Directions: Solve each problem.

1. A recipe calls for a ratio of 3 cups of raspberries to 4 cups of strawberries.
What is the unit rate? _____

7. Solve for m .
 $20m = 100$
 $m =$ _____

2. What three-dimensional shape will the net form?



8. Write an integer to represent the situation. A submarine descended 2,000 feet.

3. What is the area of a parallelogram with a base of 7 cm and a height of 3 cm?

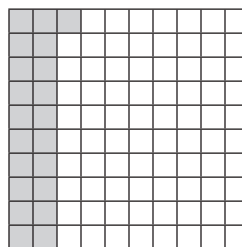
9. $7\frac{1}{5} \times \frac{4}{9} =$ _____

4. $15 - 3^2 + 4 - 2 =$ _____

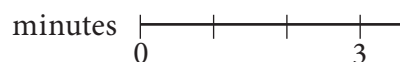
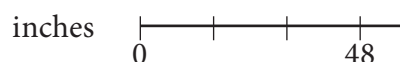
10. What are the coordinates of the point reflected across the y -axis from (2, 1)?

5. The Johnson family drove 495 miles in 9 hours. How many miles did they drive per hour?

11. Use the hundreds grid to answer the questions.



6. A snail crawled 48 inches in 3 minutes. How many inches did the snail crawl in 1 minute? Use the double number line to help you find the solution.

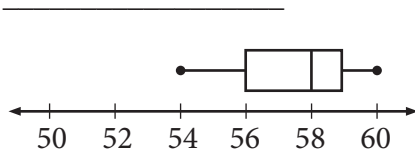


- a. What decimal represents the shaded area on the grid? _____
b. What percent represents the shaded area on the grid? _____

12. 25 mm = _____ cm

Directions: Solve each problem.

1. What is the interquartile range (IQR) from the box plot?



8. Write a ratio for shaded parts to unshaded parts in three ways.



- a. _____
b. _____
c. _____

2. $30 \times \frac{4}{5} =$ _____

9. What is 40% as a fraction? _____

3. $3^3 - 2^2 =$ _____

10. What is the area of a triangle with a base of 8 inches and a height of 10 inches?
_____ square inches

4. Write 50 as a product of prime factors.

11. Rick is making miniature figures. Each figure requires $\frac{1}{4}$ of a tube of paint. Rick has $\frac{5}{8}$ of a tube of paint. Use the diagrams to help you answer the questions.



- a. How many figures can Rick make? _____
b. Will Rick have any paint left over? _____
c. Write a division equation to represent the situation. _____

6. Beth is mixing paint to make green. She uses the ratio 3 blue to 5 yellow.

- a. What percent of the paint Beth is using is blue?

b. What fraction of the paint is yellow?

12. The 12 players on Lim's baseball team all hit the same number of home runs. As a team, they hit a total of 144 home runs. How many home runs did each player hit?

- a. Write a division equation with a variable to represent the problem.

b. Write a multiplication equation with a variable to represent the problem.

c. What is the solution? _____

7. 7 yards = _____ feet

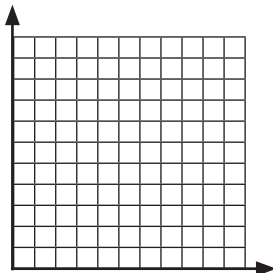
Name: _____ Date: _____

Directions: Solve each problem.

1. Write an equation to represent the table. Then, graph the relationship on the coordinate grid.

$y =$ _____

x	y
0	0
1	3
2	6
3	9



2. Becca made a fruit smoothie using a ratio of 2 bananas to 6 strawberries.
- What percent of the smoothie is banana? _____
 - What fraction of the smoothie is strawberries? _____
 - What decimal represents the amount of bananas in the smoothie? _____

3. Maril mowed $9\frac{4}{5}$ lawns. Sean mowed $\frac{2}{3}$ as many lawns. Who mowed more lawns? How do you know?
- _____

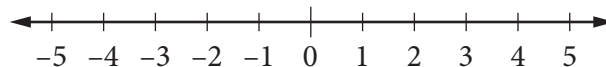
4. Complete the table.

Fraction	Decimal	Percent
		11%
	0.1	
$\frac{1}{5}$		

5. $\frac{2}{5} \div 3\frac{1}{4} =$ _____

$$\begin{array}{r} 4.622 \\ 3.768 \\ + 0.247 \\ \hline \end{array}$$

7. Plot and label each number and its opposite on the number line. -2, 1, 4

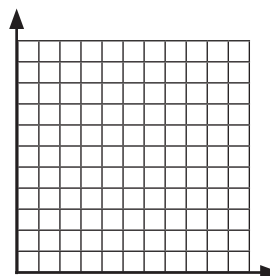


8. $5^3 =$ _____

9. Which quadrant on a coordinate grid is (4, -1) located in?
- _____

10. Graph and label the points on the coordinate grid. Then, find and write the distance between the points.

A(2, 1) and B(6, 1) distance: _____



Name: _____ Date: _____

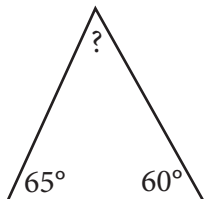
Directions: Solve each problem.

1. Mariah and Lynette were picking cherries for a pie. Mariah picked $\frac{1}{4}$ of the cherries. Lynette picked 0.75 of the cherries.

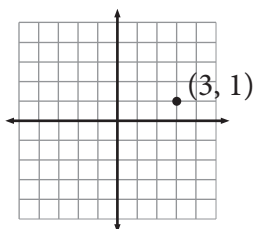
- a. What is the decimal for the amount of cherries Mariah picked? _____
b. What is the percent for the cherries Lynette picked? _____

2. Which quadrant on a coordinate grid is $(-4, -5)$ located in? _____

3. What is the measure of the missing angle? _____

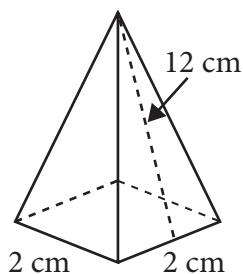


4. What are the coordinates of the new point if the graphed point is reflected over the y -axis?



5. Use the shape to complete the tasks.

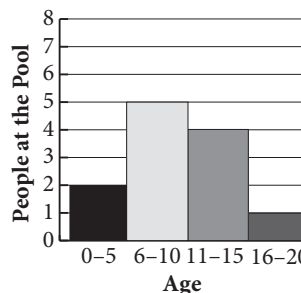
- a. Draw a net for the square pyramid.
b. Find and record the surface area of the square pyramid.



_____ square centimeters

6. Use the graph to answer the questions.

- a. How many people were surveyed according to the histogram? _____
b. Which age group was the mode? _____



7. $15 - (-9) =$ _____

8. $8^2 + 1^5 =$ _____

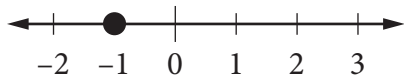
Name: _____ Date: _____

Directions: Solve each problem.

1. Luka is making orange juice. He uses 4 cups of concentrate and the rest water in a batch of 10 cups of orange juice.

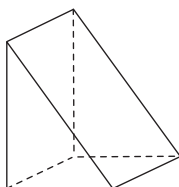
- a. What percent of the orange juice is concentrate? _____
b. What is the ratio of concentrate to water? _____

2. What are the coordinates of the point reflected over the x -axis from $(3, 2)$? _____
3. Use the number line to answer the questions.



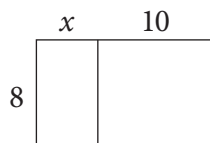
- a. What is the opposite of the number graphed on the number line? _____
b. What is the absolute value of the number graphed on the number line? _____

4. Draw a net for the triangular prism.

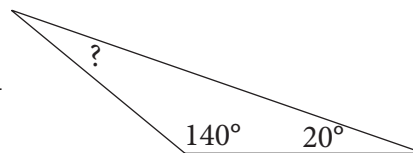


5. Write an equivalent expression for the area of the diagram using the Distributive Property.

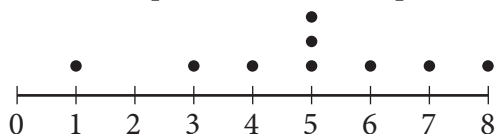
$$8(x + 10) = \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$



6. What is the measure of the missing angle? _____



7. Use the dot plot to answer the questions.



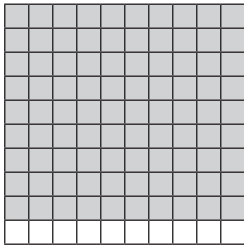
- a. What is the median of the data on the dot plot? _____
b. What is the range of the data on the dot plot? _____
c. What word describes the line plot? Circle your answer.
clustered uniform skewed

8. Write an equivalent expression using the Distributive Property.

$$16 + 24x = \underline{\hspace{2cm}} (\underline{\hspace{2cm}} + \underline{\hspace{2cm}})$$

Directions: Solve each problem.

1. Use the hundreds grid to answer the questions.



- a. What decimal represents the shaded area on the grid? _____
- b. What percent represents the shaded area on the grid? _____

2. Harry used 10 gallons of water to fill up his fish tank. Hallie used $\frac{9}{8}$ as much water. Who used more water to fill their fish tank? How do you know?

3. Write an equivalent expression using the Distributive Property.

$$10 + 35$$

_____ (_____ + _____)

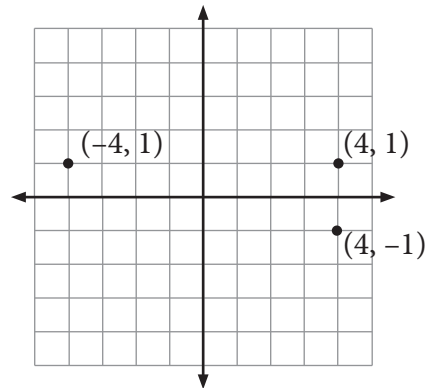
4. The recipe calls for 3 cups of chocolate chips for every 5 cups of flour. How many cups of chocolate chips are needed for every 1 cup of flour?

5. Complete the table.

Number	Absolute Value	Opposite
6		
		-10
-3		

6. Write an expression for *a number increased by 9*.

7. What are the coordinates of the fourth point needed to form a rectangle on the graph?



8. Write an expression, using the Distributive Property, to represent the area of the rectangle.

$4x$	20
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Learn about Unit Rates

A **rate** is a comparison of two quantities of different units.

A **unit rate** is a comparison of a quantity to 1. Unit rates have a denominator of 1. Unit rates are found by dividing a ratio of different units to find the amount of a unit per 1 of the other unit.

Example 1

What is the rate and the unit rate for the given phrase?

40 sandwiches for 5 campers

1. Write the comparison as a fraction. Label the numerator and denominator.

Rate: $\frac{40 \text{ sandwiches}}{5 \text{ campers}}$

2. To find the unit rate, divide the numerator of the rate by the denominator.

$$40 \div 5 = \underline{\hspace{2cm}}$$

3. You can write it two ways. $\frac{8 \text{ sandwiches}}{1 \text{ camper}}$ or 8 $\frac{\text{sandwiches}}{\text{camper}}$

Example 2

Marco jogs $\frac{1}{2}$ of a mile in $\frac{1}{4}$ of an hour. How far does he jog in one hour?

1. Divide the distance Marco jogs by the time it takes him.

$$\frac{1}{2} \div \frac{1}{4} \text{ is the same as } \frac{1}{2} \times \frac{4}{1}$$

$$\frac{1}{2} \times \frac{4}{1} = \frac{4 \text{ miles}}{2 \text{ hours}}$$

2. Simplify the rate so the denominator is 1 hour.

$$\frac{4 \text{ miles}}{2 \text{ hours}} = \frac{2 \text{ miles}}{1 \text{ hour}}$$

3. Marco jogs 2 miles in 1 hour.

4. You can also draw a diagram to find the answer or check your work.

miles	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
hours	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

Example 3

Frank ran 4 miles in $\frac{2}{3}$ of an hour. Find his unit rate.

1. To find Frank's unit rate, we can divide the number of miles he ran by the amount of time it took him to run the distance.

2. To divide by a fraction, we can multiply by the reciprocal.

$$4 \div \frac{2}{3} = \frac{4}{1} \times \frac{3}{2} = \frac{12}{2} = 6$$

3. Frank ran $\underline{\hspace{2cm}}$ miles per hour.

Name: _____ Date: _____


Quick Tip

Be sure to label both the numerator and the denominator in a rate. When writing the unit rate, label the answer in the number of units in the numerator per one unit of the denominator.

Directions: Write the rate and the unit rate for each phrase.

- 1.** 150 students for 15 tables

Rate: _____

Unit Rate: _____

- 7.** 90 students in 3 classrooms

Rate: _____

Unit Rate: _____

- 2.** 56 party hats in 8 packages

Rate: _____

Unit Rate: _____

- 8.** 12 birds in 4 nests

Rate: _____

Unit Rate: _____

- 3.** 36 peaches in 3 boxes

Rate: _____

Unit Rate: _____

- 9.** 48 pounds of potatoes in 6 bags

Rate: _____

Unit Rate: _____

- 4.** 120 campers in 10 tents

Rate: _____

Unit Rate: _____

- 10.** 60 books on 5 shelves

Rate: _____

Unit Rate: _____

- 5.** 81 golf balls in 9 boxes

Rate: _____

Unit Rate: _____

- 11.** 35 juice boxes in 7 packages

Rate: _____

Unit Rate: _____

- 6.** \$400 for 20 hours of work

Rate: _____

Unit Rate: _____

- 12.** 125 candles in 5 boxes

Rate: _____

Unit Rate: _____

Name: _____ Date: _____

Directions: Find each unit rate.

1. $\frac{\$1,050}{50 \text{ hours}} = \frac{\quad}{1 \text{ hour}}$

8. $\frac{112 \text{ pages}}{2\frac{1}{2} \text{ hours}} = \frac{\quad}{1 \text{ hour}}$

2. $\frac{45 \text{ dogs}}{15 \text{ houses}} = \frac{\quad}{1 \text{ house}}$

9. $\frac{\$216}{18 \text{ hours}} = \frac{\quad}{1 \text{ hour}}$

3. $\frac{\$333}{6 \text{ video games}} = \frac{\quad}{1 \text{ video game}}$

10. $\frac{8 \text{ pizzas}}{16 \text{ teammates}} = \frac{\quad}{1 \text{ teammate}}$

4. $\frac{\$48}{6\text{-month membership}} = \frac{\quad}{1\text{-month membership}}$

11. $\frac{400 \text{ miles}}{16 \text{ gallons}} = \frac{\quad}{1 \text{ gallon}}$

5. $\frac{40 \text{ driveways snowplowed}}{4 \text{ hours}} = \frac{\quad}{1 \text{ hour}}$

12. $\frac{\$192}{6 \text{ sweaters}} = \frac{\quad}{1 \text{ sweater}}$

6. $\frac{80 \text{ gallons}}{10 \text{ minutes}} = \frac{\quad}{1 \text{ minute}}$

13. $\frac{450 \text{ words}}{9 \text{ minutes}} = \frac{\quad}{1 \text{ minute}}$

7. $\frac{3 \text{ miles}}{\frac{1}{4} \text{ hour}} = \frac{\quad}{1 \text{ hour}}$

14. $\frac{54 \text{ wins}}{6 \text{ seasons}} = \frac{\quad}{1 \text{ season}}$

Name: _____ Date: _____

Directions: Solve each problem.

- | | |
|---|--|
| 1. Tamyra bought 8 pairs of shoes for \$256. How much was 1 pair of shoes?
_____ | 7. Patty finished 16 math problems in $\frac{2}{3}$ of an hour. At this rate, how many problems will Patty complete in 1 hour?
_____ |
| 2. Li ate 2 hot dogs in $\frac{1}{3}$ of a minute. How many hot dogs could Li eat in 1 minute?
_____ | 8. Lonnie bought 4 pounds of oranges for \$6. How much was each pound of oranges?
_____ |
| 3. Bart bought 8 candy bars for \$4. How much did each candy bar cost?
_____ | 9. Diana drove $942\frac{1}{2}$ miles in $14\frac{1}{2}$ hours. How many miles did Diana drive in 1 hour?
_____ |
| 4. Camille read 84 pages of her book in 4 hours. At that speed, how many pages did Camille read in 1 hour?
_____ | 10. Grant can run $\frac{1}{2}$ miles in $5\frac{1}{2}$ minutes. How many miles can Grant run in 1 minute?
_____ |
| 5. Yan used 12 cups of sugar to make 6 pies. How many cups of sugar did Yan use for 1 pie?
_____ | 11. Walt mowed 5 lawns in his neighborhood in $2\frac{1}{3}$ hours. Each lawn was the same size. How many lawns could Walt mow in 1 hour?
_____ |
| 6. Devin earned \$186 for $15\frac{1}{2}$ hours of work. How much did Devin earn in 1 hour?
_____ | 12. At the movies, Ron bought 4 buckets of popcorn for \$43.96. How much was 1 bucket of popcorn?
_____ |

Name: _____ Date: _____

Directions: Solve each problem.

- | | |
|---|---|
| <p>1. Geno swam 3 miles at the same speed in $\frac{1}{4}$ of an hour. How many miles could Geno swim in 1 hour?</p> <p>_____</p> | <p>7. Marci needed $\frac{1}{4}$ of a cup of chocolate chips for $\frac{1}{3}$ of a cookie recipe. How many cups of chocolate chips does Marci need for 1 full cookie recipe?</p> <p>_____</p> |
| <p>2. Keith rode his bicycle 15 miles at the same speed in $1\frac{1}{4}$ hours. How many miles could Keith ride in 1 hour?</p> <p>_____</p> | <p>8. Rob's plant grew $\frac{1}{8}$ of an inch in $\frac{1}{2}$ of a week. How many inches will Rob's plant grow in 1 week?</p> <p>_____</p> |
| <p>3. Wendy made 5 ceramic bowls in $\frac{1}{4}$ of an hour. How many bowls could she make in 1 hour?</p> <p>_____</p> | <p>9. Connie kept score at $\frac{1}{6}$ of her softball games for $\frac{1}{2}$ of the season. If there were 36 games this season, for how many games did Connie keep score?</p> <p>_____</p> |
| <p>4. Lance skateboarded $\frac{1}{2}$ of a mile in $\frac{1}{3}$ of an hour. How many miles could he skateboard in 1 hour?</p> <p>_____</p> | <p>10. Ling's garden takes $\frac{1}{8}$ of a bag of flower seeds for $\frac{1}{16}$ of the garden. How many bags of seeds will Ling need to fill the entire garden?</p> <p>_____</p> |
| <p>5. Carol folded 16 origami animals in $\frac{2}{5}$ of an hour. How many animals could she fold in 1 hour?</p> <p>_____</p> | <p>11. Angus ran 9 miles in $\frac{4}{5}$ of an hour. How many miles will Angus run in 1 hour?</p> <p>_____</p> |
| <p>6. Darci cut out 10 character drawings in $\frac{1}{5}$ of an hour. How many character drawings could she cut out in 1 hour?</p> <p>_____</p> | <p>12. Gus mows 7 lawns in $2\frac{1}{4}$ hours. How many lawns does Gus mow in 1 hour?</p> <p>_____</p> |