

Holt McDougal Mathematics

Grade 6 Homework and Practice Workbook

HOLT McDOUGAL



HOUGHTON MIFFLIN HARCOURT



Copyright © by Houghton Mifflin Harcourt Publishing Company

All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage and retrieval system, without the prior written permission of the copyright owner unless such copying is expressly permitted by federal copyright law. Requests for permission to make copies of any part of the work should be addressed to Houghton Mifflin Harcourt Publishing Company, Attn: Contracts, Copyrights, and Licensing, 9400 South Park Center Loop, Orlando, Florida 32819.

Printed in the U.S.A

ISBN 13: 978-0-547-68662-2

1 2 3 4 5 6 7 8 9 10 XXX 20 19 18 17 16 15 14 13 12 11

4500000000

^ B C D E F G

If you have received these materials as examination copies free of charge, Houghton Mifflin Harcourt Publishing Company retains title to the materials and they may not be resold. Resale of examination copies is strictly prohibited.

Possession of this publication in print format does not entitle users to convert this publication, or any portion of it, into electronic format.

Contents

Operations and Properties

Introduction to Algebra

Decimals

Number Theory and Fractions

Fraction Operations

Data Collection and Analysis

Proportional Relationships

Measurement and Geometry

Integers and the Coordinate Plane

Functions

LESSON

1

Operations and Properties**Practice B: Estimating with Whole Numbers**

Estimate each sum or difference by rounding to the greatest place value.

1. $67 + 14$

2. $583 - 329$

3. $94 - 36$

4. $2,856 + 2,207$

5. $276 + 316$

6. $6,020 - 3,688$

7. $34,465 + 19,002$

8. $78,135 - 19,431$

9. $216,135 + 165,800$

Estimate each product or quotient.

10. $59 \div 6$

11. 51×8

12. $83 \div 4$

13. 9×27

14. $49 \div 6$

15. 53×8

16. $147 \div 5$

17. $118 \div 6$

18. 79×5

19. Sailfish are the fastest fish in the world. They can swim 68 miles an hour. About how far can a sailfish swim in 3 hours?

20. At a height of 3,281 feet, Angel Falls in Venezuela is the tallest waterfall in the world. Niagara Falls in the United States is only 190 feet tall. About how much taller is Angel Falls?

21. Ali, a gardener, is preparing to fertilize a lawn. The lawn is 30 yards by 25 yards. One bag of fertilizer will cover an area of 100 square yards. How many bags of fertilizer does Ali need to buy?

LESSON
2

Operations and Properties

Practice B: Divide Multi-Digit Whole Numbers

Write the correct answer.

1. A scientist has 1,050 samples to observe. She has 14 assistants for the job. If she splits the samples evenly among the assistants, how many samples will each assistant observe?

2. At the outdoor stadium, 15 summer concerts were completely sold out. A total of 9,375 people attended the concerts. How many people, on average, attended each concert?

3. Jerry has 25 weeks left to save \$2,320 for a trip. If he saves an equal amount each week, how much money does he save each week to meet his goal?

4. The managers at an electronics store want to sell all 1,536 computers in the store's warehouse in 48 days. How many computers do the staff need to sell each day to meet the goal?

5. The Appalachian Trail is about 2,175 miles long. If Sharon hikes 12 miles each day, how many days will it take her to hike the Appalachian Trail?

6. The art teacher bought 3,200 pounds of clay. He has 84 students. He wants to divide the clay evenly so each student gets the same amount of clay. How many pounds will each student get?

Find each quotient.

7. $1,334 \div 29$

8. $7,890 \div 52$

9. $2,902 \div 18$

10. $8,765 \div 88$

11. $11,023 \div 45$

12. $15,812 \div 40$

13. $20,884 \div 92$

14. $34,680 \div 64$

LESSON
3

Operations and Properties

Practice B: Exponents

Write each expression in exponential form.

1. 9×9

2. $7 \times 7 \times 7$

3. $1 \times 1 \times 1 \times 1 \times 1$

4. $5 \times 5 \times 5 \times 5$

5. $2 \times 2 \times 2 \times 2 \times 2 \times 2$

6. $10 \times 10 \times 10 \times 10$

Find each value.

7. 6^2

8. 5^3

9. 10^3

10. 7^2

11. 2^5

12. 3^4

13. 25^1

14. 16^0

Compare. Write $<$, $>$, or $=$.

15. 8^0 $\underline{\hspace{1cm}}$ 7^1

16. 10^2 $\underline{\hspace{1cm}}$ 11^2

17. 8^2 $\underline{\hspace{1cm}}$ 4^3

18. 3^4 $\underline{\hspace{1cm}}$ 5^2

19. 2^5 $\underline{\hspace{1cm}}$ 9^2

20. 6^2 $\underline{\hspace{1cm}}$ 3^3

21. What whole number equals 25 when it is squared and 125 when it is cubed?

22. Use exponents to write the number 81 three different ways.

LESSON
4

Operations and Properties

Practice B: Order of Operations

Simplify each expression.

1. $10 + 6 \times 2$

2. $(15 + 39) \div 6$

3. $(20 - 15) \times 2 + 1$

4. $(4^2 + 6) \div 11$

5. $9 + (7 - 1) \times 2$

6. $(2 \times 4) + 8 - (5 \times 3)$

7. $5 + 18 \div 3^2 - 1$

8. $8 + 5 \times 10 - 12$

9. $14 + (50 - 7^2) \times 3$

Add parentheses so that each equation is correct.

10. $7 + 9 \times 3 - 1 = 25$

11. $2^3 - 7 \times 4 = 4$

12. $5 + 6 \times 9 \div 3 = 23$

13. $12 \div 3 \times 2 = 2$

14. $8 + 3 \times 6 - 4 - 1 = 13$

15. $4 \times 3^2 + 1 = 40$

16. $9 \times 0 + 5 - 3 = 42$

17. $15 \times 3^2 - 2^3 = 15$

18. $14 \div 2 + 5 \times 5 = 10$

19. Tyler walked 2 miles a day for the first week of his exercise plan. Then he walked 3 miles a day for the next 9 days. How many miles did Tyler walk in all?

20. Paulo's father bought 8 pizzas and 12 bottles of juice for the class party. Each pizza cost \$9 and each bottle of juice cost \$2. Paulo's father paid with a \$100-bill. How much change did he get back?

LESSON

5

Operations and Properties**Practice B: Properties and Mental Math****Simplify.**

1. $17 + 4 \times 5$

2. $25 \times 3 \times 4$

3. $28 + 39 + 11 + 22$

4. $12 + 7 + 8 + 13$

5. $10 + 3 \times 2$

6. $9 \times 8 \times 5$

7. $97 + 4 + 3 + 26$

8. $2 \times 6 \times 5$

9. $28 + 2 \times 6$

Use the Distributive Property to find each product.

10. 4×16

11. 8×31

12. 3×62

13. 2×46

14. 5×29

15. 7×22

16. 9×21

17. 6×15

18. 8×44

19. 4×29

20. 7×31

21. 5×57

22. Each ticket to a play costs \$27. How much will it cost to buy 4 tickets? Which property did you use to solve this problem with mental math?

23. Mr. Stanley bought two cases of pencils. Each case has 20 boxes. In each box there is 10 pencils. Use mental math to find how many pencils Mr. Stanley bought.

24. When you consider that cows eat grass and the water needed to grow the grass that cows eat, it takes 65 gallons of water to produce one serving of milk! Use mental math to find how many gallons of water are needed to produce 5 servings of milk.

LESSON
1

Introduction to Algebra

Practice B: Variables and Expressions

Evaluate each expression to find the missing values in the tables.

1.

| n | $n + 8^2$ |
|-----|-----------|
| 7 | 71 |
| 9 | |
| 22 | |
| 35 | |

2.

| n | $25 - n$ |
|-----|----------|
| 20 | 5 |
| 5 | |
| 18 | |
| 9 | |

3.

| n | $n \cdot 7$ |
|-----|-------------|
| 8 | 56 |
| 9 | |
| 11 | |
| 12 | |

4.

| n | $24 \div n$ |
|-----|-------------|
| 2 | 12 |
| 6 | |
| 4 | |
| 8 | |

5.

| n | $n + 15$ |
|-----|----------|
| 35 | |
| 5 | |
| 20 | |
| 85 | |

6.

| n | $n \cdot 2^3$ |
|-----|---------------|
| 7 | |
| 4 | |
| 10 | |
| 13 | |

7. A car is traveling at a speed of 55 miles per hour. You want to write an algebraic expression to show how far the car will travel in a certain number of hours. What will be your constant? your variable?

8. Shawn evaluated the algebraic expression $x \div 4$ for $x = 12$ and gave an answer of 8. What was his error? What is the correct answer?

LESSON

2

Introduction to Algebra

Practice B: Translating Between Words and Math

1. Terry’s essay has 9 more pages than Stacey’s essay. If s represents the number of pages in Stacey’s essay, write an expression for the number of pages in Terry’s essay.

2. Let z represent the number of students in a class. Write an expression for the number of students in 3 equal groups.

Write each phrase as a numerical or algebraic expression.

3. 24 multiplied by 3

4. n multiplied by 14

5. w added to 64

6. the difference of 58 and 6

7. m subtracted from 100

8. the sum of 180 and 25

9. the product of 35 and x

10. the quotient of 63 and 9

11. 28 divided by p

Write two phrases for each expression.

12. $n + 91$

13. $35 \div r$

14. $20 - s$

15. Charles is 3 years older than Paul. If y represents Paul’s age, what expression represents Charles’s age?

16. Maya bought some pizzas for \$12 each. If p represents the number of pizzas she bought, what expression shows the total amount she spent?

LESSON
3

Introduction to Algebra

Practice B: Translating Between Tables and Expressions

Write an expression for the missing value in each table.

1.

| Bicycles | Wheels |
|----------|--------|
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |
| b | |

2.

| Ryan's Age | Mia's Age |
|------------|-----------|
| 14 | 7 |
| 16 | 9 |
| 18 | 11 |
| r | |

3.

| Minutes | Hours |
|---------|-------|
| 60 | 1 |
| 120 | 2 |
| 180 | 3 |
| m | |

4.

| Bags | Potatoes |
|------|----------|
| 3 | 21 |
| 4 | 28 |
| 5 | 35 |
| b | |

Write an expression for the sequence in each table.

5.

| | | | | | | |
|----------------------|---|---|---|---|---|-----|
| Position | 1 | 2 | 3 | 4 | 5 | n |
| Value of Term | 3 | 4 | 5 | 6 | 7 | |

6.

| | | | | | | |
|----------------------|---|---|----|----|----|-----|
| Position | 1 | 2 | 3 | 4 | 5 | n |
| Value of Term | 5 | 9 | 13 | 17 | 21 | |

7. A rectangle has a width of 6 inches. The table shows the area of the rectangle for different widths. Write an expression that can be used to find the area of the rectangle when its length is l inches.

| Width (in.) | Length (in.) | Area (in. ²) |
|-------------|--------------|--------------------------|
| 6 | 8 | 48 |
| 6 | 10 | 60 |
| 6 | 12 | 72 |
| 6 | l | |

LESSON

4

Introduction to Algebra

Practice B: Equations and Their Solutions

Determine whether the given value of the variable is a solution.

- | | |
|---|--|
| 1. $9 + x = 21$ for $x = 11$ _____ | 2. $n - 12 = 5$ for $n = 17$ _____ |
| 3. $25 \cdot r = 75$ for $r = 3$ _____ | 4. $72 \div q = 8$ for $q = 9$ _____ |
| 5. $28 + c = 43$ for $c = 15$ _____ | 6. $u \div 11 = 10$ for $u = 111$ _____ |
| 7. $\frac{k}{8} = 4$ for $k = 24$ _____ | 8. $16x = 48$ for $x = 3$ _____ |
| 9. $73 - f = 29$ for $f = 54$ _____ | 10. $67 - j = 25$ for $j = 42$ _____ |
| 11. $39 \div v = 13$ for $v = 3$ _____ | 12. $88 + d = 100$ for $d = 2$ _____ |
| 13. $14p = 20$ for $p = 5$ _____ | 14. $6w = 30$ for $w = 5$ _____ |
| 15. $7 + x = 70$ for $x = 10$ _____ | 16. $6 \cdot n = 174$ for $n = 29$ _____ |

Replace each \square with a number that makes the equation correct.

- | | |
|--|--|
| 17. $5 + 1 = 2 + \square$ _____ | 18. $10 - \square = 12 - 7$ _____ |
| 19. $\square \cdot 3 = 2 \cdot 9$ _____ | 20. $28 \div 4 = 14 \div \square$ _____ |
| 21. $\square + 8 = 6 + 3$ _____ | 22. $12 \cdot 0 = \square \cdot 15$ _____ |
| 23. Carla had \$15. After she bought lunch, she had \$8 left. Write an equation using the variable x to model this situation. What does your variable represent? | 24. Seventy-two people signed up for the soccer league. After the players were evenly divided into teams, there were 6 teams in the league. Write an equation to model this situation using the variable x . |

LESSON
5

Introduction to Algebra

Practice B: Addition Equations

Solve each equation. Check your answers.

1. $s + 3 = 23$

2. $v + 10 = 49$

3. $q + 9 = 16$

4. $81 + m = 90$

5. $38 + x = 44$

6. $28 + n = 65$

7. $t + 31 = 50$

8. $25 + p = 39$

9. $19 + v = 24$

Solve each equation. Check your answers.

10. $m + 8 = 17$

11. $r + 14 = 20$

12. $25 + x = 32$

13. $47 + p = 55$

14. $19 + d = 27$

15. $13 + n = 26$

16. $q + 12 = 19$

17. $34 + f = 43$

18. $52 + w = 68$

19. Kenya bought 28 beads, and Nancy bought 25 beads. It takes 35 beads to make a necklace. Write and solve two addition equations to find how many more beads they each need to make a necklace.

20. During a sales trip, Mr. Jones drove 15 miles east from Brownsville to Carlton. Then he drove several more miles east from Carlton to Sun City. The distance from Brownsville to Sun City is 35 miles. Write and solve an addition equation to find how many miles it is from Carlton to Sun City.

LESSON

6

Introduction to Algebra

Practice B: Subtraction Equations

Solve each equation. Check your answers.

1. $s - 8 = 12$

2. $v - 11 = 7$

3. $9 = q - 5$

4. $m - 21 = 5$

5. $34 = x - 12$

6. $n - 45 = 45$

7. $t - 19 = 9$

8. $p - 6 = 27$

9. $15 = v - 68$

Solve each equation. Check your answers.

10. $7 = m - 5$

11. $r - 10 = 22$

12. $16 = x - 4$

13. $40 = p - 11$

14. $28 = d - 6$

15. $n - 9 = 42$

16. $q - 85 = 8$

17. $f - 13 = 18$

18. $47 = w - 38$

19. Ted took 17 pictures at the aquarium. He now has 7 pictures left on the roll. Write and solve a subtraction equation to find out how many photos Ted had when he went to the aquarium.

20. Ted bought a dolphin poster for \$12. He now has \$5. Write and solve a subtraction equation to find out how much money Ted took to the aquarium.

LESSON
7

Introduction to Algebra

Practice B: Multiplication Equations

Solve each equation. Check your answers.

1. $8s = 72$

2. $4v = 28$

3. $27 = 9q$

4. $12m = 60$

5. $48 = 6x$

6. $7n = 63$

7. $10t = 130$

8. $15p = 450$

9. $84 = 6v$

Solve each equation. Check your answers.

10. $49 = 7m$

11. $20r = 80$

12. $64 = 8x$

13. $36 = 4p$

14. $147 = 7d$

15. $11n = 110$

16. $12q = 144$

17. $25f = 125$

18. $128 = 16w$

19. A hot-air balloon flew at 10 miles per hour. Using the variable h , write and solve a multiplication equation to find how many hours the balloon traveled if it covered a distance of 70 miles.

20. A passenger helicopter can travel 300 miles in the same time it takes a hot-air balloon to travel 20 miles. Using the variable s , write and solve a multiplication equation to find how many times faster the helicopter can travel than the hot air balloon.

LESSON

8

Introduction to Algebra

Practice B: Division Equations

Solve each equation. Check your answers.

1. $\frac{s}{6} = 7$

2. $\frac{v}{5} = 9$

3. $12 = \frac{q}{7}$

4. $\frac{m}{2} = 16$

5. $26 = \frac{x}{3}$

6. $\frac{n}{8} = 4$

7. $\frac{t}{11} = 11$

8. $\frac{p}{7} = 10$

9. $7 = \frac{v}{8}$

Solve each equation. Check your answers.

10. $10 = \frac{m}{9}$

11. $\frac{r}{5} = 8$

12. $11 = \frac{x}{7}$

13. $9 = \frac{p}{12}$

14. $15 = \frac{d}{5}$

15. $\frac{n}{4} = 28$

16. $\frac{q}{2} = 134$

17. $\frac{u}{16} = 1$

18. $2 = \frac{w}{25}$

19. All the seats in the theater are divided into 6 groups. There are 35 seats in each group. Using the variable s , write and solve a division equation to find how many seats there are in the theater.

20. There are 16 ounces in one pound. A box of nails weighs 4 pounds. Using the variable w , write and solve a division equation to find how many ounces the box weighs.

LESSON

Decimals

1

Practice B: Representing, Comparing, and Ordering Decimals

Write each decimal in standard form, expanded form, and words.

1. 2.07 _____
2. $5 + 0.007$ _____
3. four and six tenths _____
4. sixteen and five tenths _____
5. $9 + 0.6 + 0.08$ _____
6. 1.037 _____
7. $2 + 0.1 + 0.003$ _____
8. eighteen hundredths _____
9. 6.11 _____

Order the decimals from least to greatest.

- | | |
|--|---|
| <p>10. 3.578, 3.758, 3.875 _____</p> | <p>11. 0.0943, 0.9403, 0.9043 _____</p> |
| <p>12. 12.97, 12.957, 12.75 _____</p> | <p>13. 1.09, 1.901, 1.9, 1.19 _____</p> |
| <p>14. Your seventh and eighth ribs are two of the longest bones in your body. The average seventh rib is nine and forty-five hundredths inches long, and the average eighth rib is 9.06 inches long. Which bone is longer? _____</p> | <p>15. The average female human heart weighs nine and three tenths ounces, while the average male heart weighs eleven and one tenth ounces. Which human heart weighs less, the male or the female? _____</p> |
| <p>16. The state has \$42.3 million for a new theater. The theater that an architect designed would cost \$42.25 million. Can the theater be built for the amount the state can pay? _____</p> | <p>17. Lyn traveled 79.47 miles on Saturday, 54.28 miles on Sunday, 65.5 miles on Monday, and 98.43 miles on Tuesday. Which day did she travel the greatest number of miles? _____</p> |

LESSON
2

Decimals

Practice B: Estimating Decimals

Estimate by rounding to the indicated place value.

1. $7.462 + 1.809$; tenths

2. $15.3614 - 2.0573$; hundredths

3. $56.4059 - 4.837$; ones

4. $0.60871 + 1.2103$; hundredths

Estimate each product or quotient.

5. $42.1 \div 5.97$

6. $11.8 \cdot 6.125$

7. $63.78 \div 8.204$

8. $7.539 \cdot 3.0642$

9. $80.794 \div 8.61$

10. $19.801 \cdot 2.78$

Estimate a range for each sum.

11. $6.8 + 4.3 + 5.6$

12. $12.63 + 9.86 + 20.30$

13. Two sixth-grade classes are collecting money to buy a present for one of their teachers. One class collected \$24.68 and the other class collected \$30.25. About how much money did they collect in all? The gift they want to buy costs \$69.75. About how much more money do they need?

14. On the highway, Anita drove an average speed of 60.2 miles per hour. At that speed, about how far can she travel in three and a half hours? At that same speed, about how many hours will it take Anita to drive 400 miles?

LESSON
3

Decimals

Practice B: Adding and Subtracting Decimals

Find each sum or difference.

1. $8.9 + 2.4$

2. $12.7 - 9.6$

3. $18.35 - 4.16$

4. $7.21 + 11.6$

5. $0.975 + 3.8$

6. $20.66 - 9.1$

7. Tiffany’s job requires a lot of driving. How many miles did she travel during the month of February? _____

Miles Tiffany Traveled

| Week | 1 | 2 | 3 | 4 |
|-------|--------|--------|--------|--------|
| Miles | 210.05 | 195.18 | 150.25 | 165.30 |

8. Shelly baby-sits after school and on the weekends. How much did she earn in all for the month of April? _____

Shelly’s Earnings for April

| Week | 1 | 2 | 3 | 4 |
|----------|----------|----------|----------|----------|
| Earnings | \$120.50 | \$180.75 | \$205.25 | \$215.50 |

Evaluate $5.6 - a$ for each value of a .

9. $a = 3.7$

10. $a = 0.5$

11. $a = 2.8$

12. $a = 1.42$

13. $a = 0.16$

14. $a = 3.75$

15. Allen bought a box of envelopes for \$2.79 and a pack of paper for \$4.50. He paid with a \$10 bill. How much change should he receive?

16. From a bolt of cloth measuring 25.60 yards, Tina cut a 6.8-yard piece and an 11.9-yard piece. How much material is left on the bolt?

LESSON

Decimals

4

Practice B: Multiplying Decimals

Find each product.

1.
$$\begin{array}{r} 0.7 \\ \times 0.3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 0.05 \\ \times 0.4 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 8.0 \\ \times 0.02 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 3.5 \\ \times 0.2 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 12.1 \\ \times 0.01 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 9.0 \\ \times 0.9 \\ \hline \end{array}$$

7. $0.04 \cdot 0.58$

8. $2.15 \cdot 1.5$

9. $1.73 \cdot 0.8$

10. $6.017 \cdot 2.0$

11. $3.96 \cdot 0.4$

12. $0.7 \cdot 0.009$

Evaluate $8x$ for each value of x .

13. $x = 0.5$

14. $x = 2.3$

15. $x = 0.74$

16. $x = 3.12$

17. $x = 0.587$

18. $x = 14.08$

19. The average mail carrier walks 4.8 kilometers in a workday. How far do most mail carriers walk in a 6-day week? There are 27 working days in July, so how far will a mail carrier walk in July?

20. A deli charges \$3.45 for a pound of turkey. If Tim wants to purchase 2.4 pounds, how much will it cost?

LESSON
5

Decimals

Practice B: Dividing Decimals by Whole Numbers

Find each quotient.

1. $0.81 \div 9$

2. $1.84 \div 4$

3. $7.2 \div 6$

4. $13.6 \div 8$

5. $4.55 \div 5$

6. $29.6 \div 8$

7. $15.57 \div 9$

8. $0.144 \div 12$

9. $97.5 \div 3$

10. $0.0025 \div 5$

11. $2.84 \div 8$

12. $18.9 \div 3$

Evaluate $2.094 \div x$ for each given value of x .

13. $x = 2$

14. $x = 4$

15. $x = 12$

16. $x = 20$

17. $x = 15$

18. $x = 30$

19. There are three grizzly bears in the city zoo. Yogi weighs 400.5 pounds, Winnie weighs 560.35 pounds, and Nyla weighs 618.29 pounds. What is the average weight of the three bears?

20. The bill for dinner came to \$75.48. The four friends decided to leave a \$15.00 tip. If they shared the bill equally, how much will they each pay?

LESSON

6

Decimals

Practice B: Dividing by Decimals

Find each quotient.

1. $9.0 \div 0.9$

2. $29.6 \div 3.7$

3. $10.81 \div 2.3$

4. $10.5 \div 1.5$

5. $15.36 \div 4.8$

6. $9.75 \div 1.3$

7. $20.4 \div 5.1$

8. $37.5 \div 2.5$

9. $9.24 \div 1.1$

10. $16.56 \div 6.9$

11. $28.9 \div 8.5$

12. $14.35 \div 0.7$

Evaluate $x \div 1.2$ for each value of x .

13. $x = 40.8$

14. $x = 1.8$

15. $x = 10.8$

16. $x = 14.4$

17. $x = 4.32$

18. $x = 0.06$

19. Anna is saving \$6.35 a week to buy a computer game that costs \$57.15. How many weeks will she have to save to buy the game?

20. Ben ran a 19.5-mile race last Saturday. His average speed during the race was 7.8 miles per hour. How long did it take Ben to finish the race?

LESSON
7

Decimals

Practice B: Interpreting the Quotient

Circle the letter of the correct answer.

- | | |
|--|---|
| <p>1. You spent a total of \$6.75 for 15 yards of ribbon. How much did the ribbon cost per yard?</p> <p>A \$0.50 B \$0.45 C \$1.35 D \$1.45</p> | <p>2. Buttons come in packs of 12. How many packs should you buy if you need 100 buttons?</p> <p>F 10 G 8 H 9 J 12</p> |
| <p>3. Your sewing cabinet has compartments that hold 8 spools of thread each. You have 50 spools of thread. How many compartments can you fill?</p> <p>A 6 B 7 C 5 D 8</p> | <p>4. You spent a total of \$35.75 for velvet cloth. Each yard of the velvet costs \$3.25. How many yards did you buy?</p> <p>F 10 G 10.5 H 11 J 11.5</p> |

Write the correct answer.

- | | |
|---|---|
| <p>5. You used a total of 67.5 yards of cotton material to make costumes for the play. Each costume used 11.25 yards of cloth. How many costumes did you make?</p> <p>_____</p> | <p>6. You are saving \$17.00 each week to buy a new sewing machine that costs \$175.50. How many weeks will you have to save to have enough money to buy the sewing machine?</p> <p>_____</p> |
| <p>7. Sequins come in packs of 75. You use 12 sequins on each costume. If you have one pack of sequins, how many costumes can you make?</p> <p>_____</p> | <p>8. You pay \$26.28 for a subscription to Sewing Magazine. You get an issue every month for a year. How much does each issue cost?</p> <p>_____</p> |

LESSON

8

Decimals**Practice B: Solving Decimal Equations**

Solve each equation. Check your answer.

1. $a - 2.7 = 4.8$

3. $w - 6.5 = 3.8$

5. $4.5 + x = 8$

7. $7.8 + s = 15.2$

9. $0.05 + x = 2.06$

11. $t - 6.08 = 12.59$

13. $w - 8.9 = 10.3$

15. $t - 12.7 = 0.8$

17. The distance around a square photograph is 12.8 centimeters. What is the length of each side of the photograph?

2. $b \div 7 = 1.9$

4. $p \div 0.4 = 1.7$

6. $b \div 3 = 2.5$

8. $1.63q = 9.78$

10. $1.7n = 2.38$

12. $9q = 16.2$

14. $1.4n = 3.22$

16. $3.8 + a = 6.5$

18. You buy two rolls of film for \$3.75 each. You pay with a \$10 bill. How much change should you get back?

LESSON

1

Number Theory and Fractions

Practice B: Factors and Prime Factorization

List all of the factors of each number.

1. 15

2. 24

3. 33

4. 72

5. 48

6. 95

7. 66

8. 87

9. 36

Write the prime factorization of each number.

10. 44

11. 56

12. 42

13. 39

14. 36

15. 125

16. 85

17. 100

18. 32

19. James has an assigned seat for his flight to Denver. The seats on the plane are numbered 1–49. James’s seat number is an odd number greater than 10 that is factor of 100. What is his seat number for the flight?

20. Linda writes the prime factorization of 40 as $2 \cdot 2 \cdot 2 \cdot 5$ on the board. Phil writes the prime factorization of 40 as $2^3 \cdot 5$. Who is correct?

LESSON
2

Number Theory and Fractions

Practice B: Greatest Common Factor

Find the GCF of each set of numbers.

1. 12 and 15

2. 18 and 24

3. 15 and 25

4. 16 and 24

5. 36 and 45

6. 24 and 54

7. 48 and 64

8. 27 and 72

9. 55 and 77

10. 16, 28, and 48

11. 15, 35, and 95

12. 20, 30, and 80

13. 18, 36, and 54

14. 27, 36, and 45

15. 21, 49, and 63

16. 25, 35, and 45

17. 28, 42, and 63

18. 25, 75, and 115

19. Mr. Thompson's sixth-grade class is competing in the school field day. There are 16 boys and 12 girls in his class. He divided the class into the greatest number of teams possible with the same number of boys on each team and the same number of girls on each team. How many teams were made if each person was on a team? How many girls were on each team? How many boys?

20. Barbara is making candy bags for her birthday party. She has 24 lollipops, 12 candy bars, and 42 pieces of gum. She wants each bag to have the same number of each kind of candy. What is the greatest number of bags she can make if all the candy is used? How many pieces of each kind of candy will be in each bag?

LESSON
3

Number Theory and Fractions

Practice B: Equivalent Expressions

Factor the sum of terms as a product of the GCF and a sum.

1. $18 + 20$

2. $35 + 15$

3. $12 + 66$

4. $24 + 40$

5. $52 + 28$

6. $3 + 33$

7. $10y + 15$

8. $18s + 21$

9. $49m + 7$

10. $56 + 24x$

11. $80 + 25z$

12. $32b + 48$

Write four equivalent expressions for each given expression.

13. $50 - 10$

14. $42 + 18$

15. $24x - 8x$

16. $5n + 15n$

17. $4(2 + 7p)$

18. $3(6m + 3)$

19. Kara's backpack contains 4 boxes of pencils. Each box contains p pencils. Kara's backpack also contains 6 pens. Write three equivalent expressions for the total number of pencils and pens in Kara's backpack.

20. Juan buys c children's tickets at \$8 each. He also buys one adult ticket for \$12. Write three equivalent expressions for the total cost of the tickets.

LESSON

4

Number Theory and Fractions

Practice B: Decimals and Fractions

Write each decimal as a fraction or mixed number.

1. 0.23

2. 0.1

3. 3.25

4. $1.\bar{3}$

5. 5.5

6. 3.7

Write each fraction or mixed number as a decimal.

7. $\frac{4}{5}$

8. $\frac{1}{9}$

9. $1\frac{2}{3}$

10. $3\frac{3}{5}$

11. $2\frac{1}{3}$

12. $\frac{8}{9}$

Order the fractions and decimals from least to greatest.

13. $\frac{1}{4}$, 0.7, $\frac{3}{5}$

14. 0.25, $\frac{1}{8}$, 0.3

15. $\frac{9}{10}$, 0.49, $\frac{1}{2}$

Order the fractions and decimals from greatest to least.

16. 0.13, $\frac{1}{10}$, 0.9

17. $\frac{2}{5}$, 0.7, $\frac{2}{3}$

18. 0.65, $\frac{4}{5}$, $\frac{3}{4}$

19. Derrick has a dollar bill and three dimes, Jane has a dollar bill and one quarter, and Kelly has a dollar bill and ten nickels. Who has the most money? the least?

20. It rained three and one half inches in April. In May it rained $3\frac{3}{4}$ inches, and in June it rained 3.6 inches. Write the months in order from the greatest to the least amount of rain.

LESSON
5

Number Theory and Fractions

Practice B: Equivalent Fractions

Find two equivalent fractions for each fraction.

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

2. $\frac{4}{7}$

3. $\frac{11}{13}$

4. $\frac{2}{15}$

5. $\frac{5}{14}$

6. $\frac{8}{9}$

7. $\frac{2}{21}$

8. $\frac{24}{48}$

9. $\frac{25}{100}$

Find the missing numbers that make the fractions equivalent.

10. $\frac{4}{7} = \frac{?}{28}$

11. $\frac{2}{9} = \frac{?}{54}$

12. $\frac{36}{4} = \frac{?}{1}$

13. $\frac{56}{8} = \frac{?}{2}$

14. $1\frac{3}{5} = \frac{?}{25}$

15. $1\frac{4}{7} = \frac{?}{42}$

Write each fraction in simplest form.

16. $\frac{15}{25}$

17. $\frac{8}{36}$

18. $\frac{12}{18}$

19. $\frac{10}{24}$

20. Billy had 24 trading cards. He gave 7 of his cards to Miko and 9 of his cards to Teri. What fraction of his original 24 cards does Billy have left? Write two equivalent fractions for that amount.

21. Beth and Kristine ride their bikes to school in the morning. Beth has to ride $1\frac{7}{32}$ miles. Kristine has to ride $\frac{39}{32}$ miles. Who rides the farthest to reach school? Explain.

LESSON
6

Number Theory and Fractions

Practice B: Mixed Numbers and Improper Fractions

Write each mixed number as an improper fraction.

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

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

3. $5\frac{1}{4}$

4. $1\frac{3}{7}$

5. $3\frac{3}{4}$

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

7. $2\frac{3}{5}$

8. $3\frac{5}{6}$

9. $7\frac{1}{3}$

Write each improper fraction as a mixed number or whole number. Tell whether your answer is a mixed number or whole number.

10. $\frac{17}{3}$

11. $\frac{40}{8}$

12. $\frac{48}{7}$

13. $\frac{33}{10}$

14. $\frac{50}{8}$

15. $\frac{83}{9}$

16. $\frac{104}{8}$

17. $\frac{121}{6}$

18. $\frac{78}{11}$

19. The hotel ordered an extra-long rug for a hallway that is $\frac{123}{2}$ feet long. What is the rug's length in feet and inches? Remember, 1 foot = 12 inches.

20. During this year's football-throwing contest, John threw the ball $49\frac{2}{3}$ feet. Sharon threw the ball 51 feet. Who threw the ball $\frac{153}{3}$ feet?

LESSON

Number Theory and Fractions**7****Practice B: Comparing and Ordering Fractions**

Compare. Write $<$, $>$, or $=$.

1. $\frac{4}{7} \text{ — } \frac{3}{5}$

2. $\frac{1}{8} \text{ — } \frac{2}{3}$

3. $\frac{1}{4} \text{ — } \frac{2}{5}$

4. $\frac{7}{8} \text{ — } \frac{5}{6}$

5. $\frac{18}{24} \text{ — } \frac{3}{4}$

6. $\frac{4}{5} \text{ — } \frac{8}{12}$

Order the fractions from least to greatest.

7. $\frac{1}{2}, \frac{2}{5}, \frac{1}{3}$

8. $\frac{2}{5}, \frac{3}{4}, \frac{2}{3}$

9. $\frac{3}{7}, \frac{5}{6}, \frac{4}{5}$

10. $\frac{5}{9}, \frac{3}{7}, \frac{2}{3}$

11. $\frac{3}{8}, \frac{2}{7}, \frac{3}{5}$

12. $\frac{2}{7}, \frac{1}{8}, \frac{2}{5}$

Order the fractions from greatest to least.

13. $\frac{1}{6}, \frac{2}{7}, \frac{1}{5}$

14. $\frac{3}{7}, \frac{4}{9}, \frac{2}{3}$

15. $\frac{2}{5}, \frac{3}{10}, \frac{2}{3}$

16. $\frac{4}{5}, \frac{7}{10}, \frac{1}{12}$

17. $\frac{3}{8}, \frac{3}{4}, \frac{4}{9}$

18. $\frac{4}{7}, \frac{3}{5}, \frac{5}{6}$

19. David ran $4\frac{1}{4}$ miles, Shane ran $4\frac{1}{2}$ miles, and Matt ran $4\frac{5}{8}$ miles.

Who ran the farthest?

20. Darius and Anita both took the same test. Darius answered $\frac{5}{6}$ of the questions correctly, and Anita answered $\frac{6}{7}$ correctly. Who got the higher score on the test?

LESSON

1

Fraction Operations

Practice B: Least Common Multiple

Find the least common multiple (LCM).

1. 2 and 5

2. 4 and 3

3. 6 and 4

4. 6 and 8

5. 5 and 9

6. 4 and 5

7. 10 and 15

8. 8 and 12

9. 6 and 10

10. 3, 6, and 9

11. 2, 5, and 10

12. 4, 7, and 14

13. 3, 5, and 9

14. 2, 5, and 8

15. 3, 9, and 12

16. Mr. Stevenson is ordering shirts and hats for his Boy Scout troop. There are 45 scouts in the troop. Hats come in packs of 3, and shirts come in packs of 5. What is the least number of packs of each he should order so that each scout will have 1 hat and 1 shirt, and none will be left over?

17. Tony wants to make 36 party bags. Glitter pens come in packs of 6. Stickers come in sheets of 4, and balls come in packs of 3. What is the least number of each package he should buy to have 1 of each item in every party bag, and no supplies left over?

18. Glenda is making 30 school supply baskets. Notepads come in packs of 5. Erasers come in packs of 15, and markers come in packs of 3. What is the least number of each package she should buy to have 1 of each item in every basket, and no supplies left over?

LESSON

2

Fraction Operations

Practice B: Adding and Subtracting with Unlike Denominators

Add or subtract. Write each answer in simplest form.

1. $\frac{6}{7} + \frac{1}{3}$

2. $\frac{3}{7} - \frac{2}{5}$

3. $\frac{1}{4} + \frac{3}{8}$

4. $\frac{7}{8} - \frac{2}{3}$

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

6. $\frac{5}{6} - \frac{2}{3}$

7. $\frac{5}{9} - \frac{1}{3}$

8. $\frac{7}{8} + \frac{3}{4}$

9. $\frac{5}{12} - \frac{1}{6}$

10. $\frac{4}{5} - \frac{7}{11}$

11. $\frac{4}{9} + \frac{5}{6}$

12. $\frac{5}{8} + \frac{2}{3}$

Evaluate each expression for $b = \frac{1}{3}$. Write your answer in simplest form.

13. $b + \frac{5}{8}$

14. $\frac{7}{9} - b$

15. $\frac{2}{7} + b$

16. $b + b$

17. $\frac{11}{12} - b$

18. $\frac{3}{4} - b$

19. There are three grades in Mona's middle school—sixth, seventh, and eighth. One-third of the students are in sixth grade and $\frac{1}{4}$ are in seventh grade. What fraction of the schools' students are in eighth grade?

20. Kyle is making a dessert that calls for $\frac{4}{5}$ cup of crushed cookies.

If he has already crushed $\frac{7}{10}$ cup, how much more does he need?

LESSON

3

Fraction Operations

Practice B: Regrouping to Subtract Mixed Numbers

Subtract. Write each answer in simplest form.

1. $4 - 2\frac{3}{8}$

2. $5\frac{1}{6} - 2\frac{2}{3}$

3. $14 - 8\frac{2}{9}$

4. $19\frac{1}{7} - 5\frac{1}{3}$

5. $7\frac{1}{4} - 3\frac{5}{8}$

6. $10\frac{1}{5} - 5\frac{7}{10}$

7. $1\frac{1}{6} - \frac{7}{9}$

8. $9\frac{1}{4} - 1\frac{7}{16}$

9. $6\frac{1}{5} - 3\frac{1}{4}$

Evaluate each expression for $a = 1\frac{1}{2}$, $b = 2\frac{1}{3}$, $c = \frac{1}{4}$, and $d = 3$. Write the answer in simplest form.

10. $b - a$

11. $a - c$

12. $b - c$

13. $d - a$

14. $d - b$

15. $d - c$

16. Tim had 6 feet of wrapping paper for Kylie’s birthday present. He used $3\frac{3}{8}$ feet of the paper to wrap her gift. How much paper did Tim have left? _____

17. At his last doctor’s visit, Pablo was $60\frac{1}{2}$ inches tall. At today’s visit, he measured $61\frac{1}{6}$ inches. How much did Pablo grow between visits? _____

18. Yesterday, Danielle rode her bike for $5\frac{1}{2}$ miles. Today, she rode her bike for $6\frac{1}{4}$ miles. How much farther did Danielle ride her bike today? _____

LESSON

4

Fraction Operations**Practice B: Solving Fraction Equations: Addition and Subtraction**

Solve each equation. Write the solution in simplest form. Check your answers.

1. $5\frac{1}{4} = x + \frac{7}{16}$

2. $6\frac{1}{4} = z + 1\frac{5}{8}$

3. $2\frac{2}{7} = n - 4\frac{2}{3} - 1\frac{1}{3}$

4. $a - 2\frac{2}{11} = 2\frac{5}{22} - 1\frac{2}{11}$

5. $k + 3\frac{3}{4} = 5\frac{2}{3} - 1\frac{1}{3}$

6. $r + 6 = 9\frac{2}{5} - 2\frac{1}{2}$

7. $11\frac{2}{5} = q - 4\frac{2}{7} + 2\frac{1}{7}$

8. $4\frac{2}{5} - 2\frac{1}{2} = p + \frac{3}{10}$

9. $\frac{3}{8} + \frac{1}{6} = c - 4\frac{5}{6}$

10. $2\frac{1}{4} + c = 2\frac{1}{3} + 1\frac{1}{6}$

11. A seamstress raised the hem on Helen's skirt by $1\frac{1}{3}$ inches. The skirt's original length was 16 inches. What is the new length?

12. The bike trail is $5\frac{1}{4}$ miles long. Jessie has already cycled $2\frac{5}{8}$ miles of the trail. How much farther does she need to go to finish the trail?

LESSON

5

Fraction Operations

Practice B: Multiplying Mixed Numbers

Multiply. Write each answer in simplest form.

1. $1\frac{2}{3} \cdot \frac{4}{5}$

2. $1\frac{7}{8} \cdot \frac{4}{5}$

3. $2\frac{3}{4} \cdot \frac{1}{5}$

4. $2\frac{1}{6} \cdot \frac{2}{3}$

5. $2\frac{2}{5} \cdot \frac{3}{8}$

6. $1\frac{3}{4} \cdot \frac{5}{6}$

7. $1\frac{1}{6} \cdot \frac{3}{5}$

8. $\frac{2}{9} \cdot 2\frac{1}{7}$

9. $2\frac{3}{11} \cdot \frac{7}{10}$

Find each product. Write the answer in simplest form.

10. $\frac{6}{7} \cdot 1\frac{1}{4}$

11. $\frac{5}{8} \cdot 1\frac{3}{5}$

12. $2\frac{4}{9} \cdot \frac{1}{6}$

13. $1\frac{3}{10} \cdot 1\frac{1}{3}$

14. $2\frac{1}{2} \cdot 2\frac{1}{2}$

15. $1\frac{2}{3} \cdot 3\frac{1}{2}$

16. Dominick lives $1\frac{3}{4}$ miles from his school. If his mother drives him half the way, how far will Dominick have to walk to get to school?

17. Katoni bought $2\frac{1}{2}$ dozen donuts to bring to the office. Since there are 12 donuts in a dozen, how many donuts did Katoni buy?

LESSON
6

Fraction Operations

Practice B: Dividing Fractions and Mixed Numbers

Find the reciprocal.

1. $\frac{5}{7}$

2. $\frac{9}{8}$

3. $\frac{3}{5}$

4. $\frac{1}{10}$

5. $\frac{4}{9}$

6. $\frac{13}{14}$

7. $1\frac{1}{3}$

8. $2\frac{4}{5}$

9. $3\frac{1}{6}$

Divide. Write each answer in simplest form.

10. $\frac{5}{6} \div 5$

11. $2\frac{3}{4} \div 1\frac{4}{7}$

12. $\frac{7}{8} \div \frac{2}{3}$

13. $3\frac{1}{4} \div 2\frac{3}{4}$

14. $\frac{9}{10} \div 3$

15. $\frac{3}{4} \div 9$

16. $2\frac{6}{9} \div \frac{6}{7}$

17. $\frac{5}{6} \div 2\frac{3}{10}$

18. $2\frac{1}{8} \div 3\frac{1}{4}$

19. The rope in the school gymnasium is $10\frac{1}{2}$ feet long. To make it easier to climb, the gym teacher tied a knot in the rope every $\frac{3}{4}$ foot. How many knots are in the rope? _____

20. Mr. Fulton bought $12\frac{1}{2}$ pounds of ground beef for the cookout. He plans on using $\frac{1}{4}$ pound of beef for each hamburger. How many hamburgers can he make? _____

21. Mrs. Marks has $9\frac{1}{4}$ ounces of fertilizer for her plants. She plans on using $\frac{3}{4}$ ounce of fertilizer for each plant. How many plants can she fertilize? _____

LESSON
7

Fraction Operations

Practice B: Solving Fraction Equations: Multiplication and Division

Solve each equation. Write the answer in simplest form. Check you answers.

1. $\frac{1}{4}x = 6$

2. $2t = \frac{4}{7}$

3. $\frac{3}{5}a = 3$

4. $\frac{r}{6} = 8$

5. $\frac{2b}{9} = 4$

6. $3y = \frac{4}{5}$

7. $\frac{2}{3}d = 5$

8. $2f = \frac{1}{6}$

9. $4q = \frac{2}{9}$

10. $\frac{1}{2}s = 2$

11. $\frac{h}{7} = 5$

12. $\frac{1}{4}c = 9$

13. $5g = \frac{5}{6}$

14. $3k = \frac{1}{9}$

15. $\frac{3x}{5} = 6$

16. It takes 3 buckets of water to fill $\frac{1}{3}$ of a fish tank. How many buckets are needed to fill the whole tank? _____

17. Jenna got 12, or $\frac{3}{5}$, of her answers on the test right. How many questions were on the test? _____

18. It takes Charles 2 minutes to run $\frac{1}{4}$ of a mile. How long will it take Charles to run a mile? _____

LESSON
1

Data Collection and Analysis

Practice B: Mean, Median, Mode, and Range

Find the mean of each data set.

1.

| | | | | | | |
|---------------------------------|----|----|----|----|----|----|
| Brian's Math Test Scores | 86 | 90 | 93 | 85 | 79 | 92 |
|---------------------------------|----|----|----|----|----|----|

2.

| | | | | | |
|--|----|----|----|----|----|
| Heights of Basketball Players (in.) | 72 | 75 | 78 | 72 | 73 |
|--|----|----|----|----|----|

Find the mean, median, mode, and range of each data set.

3.

| | | | | | |
|---|----|----|----|----|----|
| School Sit-Up Records (sit-ups per minute) | 31 | 28 | 30 | 31 | 30 |
|---|----|----|----|----|----|

4.

| | | | | | | |
|---|----|----|----|----|----|----|
| Team Heart Rates (beats per min) | 70 | 68 | 70 | 72 | 68 | 66 |
|---|----|----|----|----|----|----|

5.

| | | | | | | | |
|---------------------------------------|----|----|----|----|----|----|----|
| Daily Winter Temperatures (°F) | 45 | 50 | 47 | 52 | 53 | 45 | 51 |
|---------------------------------------|----|----|----|----|----|----|----|

6. Anita has two sisters and three brothers. The mean of all their ages is 6 years. What will their mean age be 10 years from now? Twenty years from now?

7. In a class of 28 sixth graders, all but one of the students are 12 years old. Which two data measurements are the same for the student's ages? What are those measurements?

LESSON
2

Data Collection and Analysis

Practice B: Additional Data and Outliers

Use the table to answer Exercises 1–2.

- The table shows population data for some of the least-crowded states. Find the mean, median, and mode of the data.

- Alaska has the lowest population density of any state. Only about 1 person per square mile lives there. Add this number to the data in the table and find the mean, median, and mode.

Population Densities

| State | People (per mi ²) |
|--------------|-------------------------------|
| Idaho | 16 |
| Nevada | 18 |
| New Mexico | 15 |
| North Dakota | 9 |
| South Dakota | 10 |

Use the table to answer Exercises 3–4.

- The table shows some of the states with the most counties. Find the mean, median, and mode of the data.

- With 254 counties, Texas has more counties than any other state. Add this number to the data in the table and find the mean, median, and mode.

- In Exercise 1, which measurement best describes the data? Why is Alaska’s population density an outlier for that data set?

State Counties

| State | Number of Counties |
|----------------|--------------------|
| Illinois | 102 |
| Iowa | 99 |
| North Carolina | 100 |
| Tennessee | 95 |
| Virginia | 95 |

- In Exercise 4, why is the number of counties in Texas an outlier for the data set? Which measurement best describes the data set with Texas included?

LESSON
3

Data Collection and Analysis

Practice B: Measures of Variation

1. Tanya kept track of the number of songs she downloaded each day this week. Her data is shown in the table.

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
| 7 | 1 | 0 | 4 | 8 | 3 | 10 |

Use the data to make a box-and-whisker plot.

Find the interquartile range for each data set. Round your answers to the nearest tenth.

2. 2, 5, 9, 1, 6, 9, 3

3. 15, 20, 20, 10

4. 6, 12, 10, 6, 9

5. 0, 8, 2, 5, 7, 9, 8, 1

6. The number of lawns the workers in Dan's company have mowed in the first 6 weeks of the summer is 31, 24, 32, 28, 29, and 36. What is the mean absolute deviation for the number of lawns mowed in the first 6 weeks of summer?

7. The amount of rainfall (in inches) for each of the first 5 months of the year is 1, 3, 8, 4, and 4. What is the mean absolute deviation for the number of inches of rain for the first 5 months of the year?

8. The number of customer-service calls Sheila has answered each hour from 9 A.M. to 2 P.M. is 24, 40, 18, 12, and 20. What is the mean absolute deviation for the number of customer service calls answered each hour?

LESSON
4

Data Collection and Analysis

Practice B: Line Plots, Frequency Tables, and Histograms

Fill in the frequency table.

- Students voted for a day not to have homework. The results are shown in the box. Which day got the most votes?

| | | | | | |
|--------|----------|-----------|--------|---------|--------|
| Monday | Friday | Thursday | Friday | Tuesday | Friday |
| Friday | Thursday | Wednesday | Monday | Friday | Monday |

| Frequency Table for Homework Votes | | | | | |
|------------------------------------|--|--|--|--|--|
| Day | | | | | |
| Frequency | | | | | |

- Make a line plot of the data.

| Average Time Spent on Homework Per Day (min) | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|
| 20 | 21 | 24 | 20 | 21 | 20 | 20 | 22 | 25 | 20 |
| 22 | 20 | 24 | 25 | 24 | 25 | 25 | 21 | 25 | 24 |



Average Time Spent on Homework Per Day (min)

- Use the data in the box below to make a frequency table with intervals.

| Class Social Studies Test Scores | | | | | | | | | |
|----------------------------------|----|----|----|----|----|-----|----|----|----|
| 78 | 95 | 81 | 83 | 75 | 68 | 100 | 73 | 92 | 85 |
| 59 | 70 | 88 | 92 | 99 | 87 | 75 | 67 | 89 | 84 |

| Class Social Studies Test Scores | | | | | |
|----------------------------------|--|--|--|--|--|
| Scores | | | | | |
| Frequency | | | | | |

- In which range of scores did most of the students' tests fall? _____

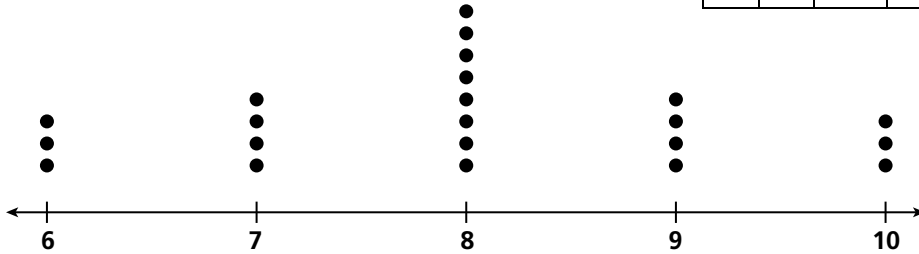
LESSON
5

Data Collection and Analysis

Practice B: Describing Distributions

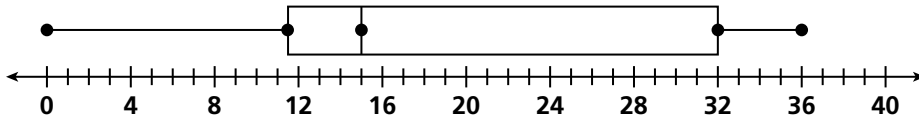
1. The data set and dot plot display the quiz scores for Mrs. Gutierrez’s second-period math class. Describe the shape of the data distribution.

| | | | | | | | |
|---|---|----|----|---|---|---|---|
| 7 | 8 | 10 | 8 | 7 | 9 | 8 | 8 |
| 7 | 9 | 9 | 8 | 6 | 8 | 8 | 8 |
| 6 | 9 | 10 | 10 | 6 | 7 | | |



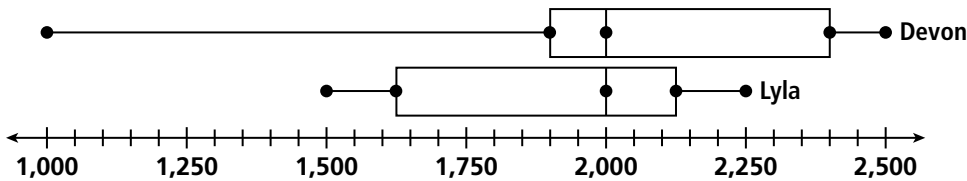
2. The data set and box-and-whisker plot display the number of customers a store had each hour it was open yesterday. Describe the shape of the data distribution.

| | | | | | |
|----|----|----|----|----|----|
| 0 | 14 | 16 | 21 | 36 | 30 |
| 35 | 8 | 11 | 14 | 34 | 12 |



3. Using the following box-and-whisker plots, describe how the distributions are alike and how they are different.

Lyla and Devon’s Daily Swim Distance (in meters)



LESSON
1

Proportional Relationships

Practice B: Ratios and Rates

Use the table to write each ratio.

1. lions to elephants _____
2. giraffes to otters _____
3. lions to seals _____
4. seals to elephants _____
5. elephants to lions _____
6. Write three equivalent ratios to compare the number of diamonds with the number of spades in the box.

| Animals in the Zoo | |
|--------------------|----|
| Elephants | 12 |
| Giraffes | 8 |
| Lions | 9 |
| Seals | 10 |
| Otters | 16 |



Use the table to write each ratio as a fraction.

7. Titans wins to Titans losses _____
8. Orioles losses to Orioles wins _____
9. Titans losses to Orioles losses _____
10. Orioles wins to Titans wins _____
11. A 6-ounce bag of raisins costs \$2.46. An 8-ounce bag of raisins costs \$3.20. Which is the better deal?

12. Barry earns \$36.00 for 6 hours of yard work. Henry earns \$24.00 for 3 hours of yard work. Who has the better hourly rate of pay?

| Baseball Team Stats | | |
|---------------------|--------|---------|
| | Titans | Orioles |
| Wins | 12 | 9 |
| Losses | 14 | 15 |

LESSON
2

Proportional Relationships

Practice B: Using Tables to Explore Equivalent Ratios and Rates

Use a table to find three equivalent ratios.

1. 4 to 7

2. $\frac{10}{3}$

3. 2:5

4. 8 to 9

5. 3 to 15

6. $\frac{30}{90}$

7. 1:3

8. $\frac{7}{2}$

9. Britney does sit-ups every day. The table shows how long it takes her to do different numbers of sit-ups.

| | | | | | |
|--------------------------|----|----|----|-----|-----|
| Number of Sit-Ups | 10 | 30 | 50 | 200 | 220 |
| Time (min) | 2 | 6 | 10 | 40 | 44 |

How long do you predict it will take Britney to do 120 sit-ups?

10. The School Supply Store has markers on sale. The table shows some sale prices.

| | | | | | |
|--------------------------|------|------|------|------|------|
| Number of Markers | 12 | 8 | 6 | 4 | 2 |
| Cost (\$) | 9.00 | 6.00 | 4.50 | 3.00 | 1.50 |

How much do you predict you would pay for 10 markers?

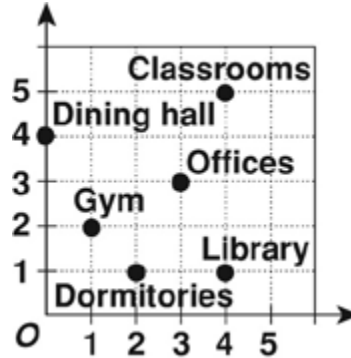
LESSON
3

Proportional Relationships

Practice B: Ordered Pairs

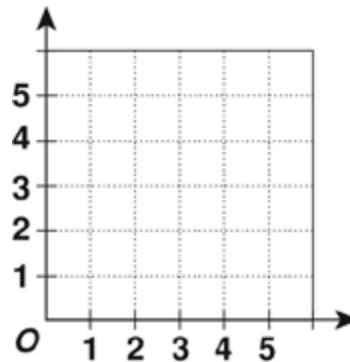
Name the ordered pair for each location on the grid.

1. gym _____
2. dining hall _____
3. offices _____
4. library _____
5. classrooms _____
6. dormitories _____



Graph and label each point on the coordinate grid.

7. A $(5, 1\frac{1}{2})$
8. B $(2, 2)$
9. C $(1, 3)$
10. D $(4, 3)$
11. E $(5, 5)$
12. F $(2, 4)$



13. On a map of his neighborhood, Mark's house is located at point $(7, 3)$. His best friend, Cheryl, lives 2 units west and 1 unit south of him. What ordered pair describes the location of Cheryl's house on their neighborhood map?

14. Quan used a coordinate grid map of the zoo during his visit. Starting at $(0, 0)$, he walked 3 units up and 4 units to the right to reach the tiger cages. Then he walked 1 unit down and 1 unit left to see the pandas. Describe the directions Quan should walk to get back to his starting point.

LESSON

Proportional Relationships

4

Practice B: Proportions

Find the missing value in each proportion.

1. $\frac{24}{8} = \frac{n}{2}$

2. $\frac{4}{9} = \frac{20}{n}$

3. $\frac{n}{36} = \frac{5}{6}$

4. $\frac{n}{5} = \frac{4}{10}$

5. $\frac{3}{9} = \frac{2}{n}$

6. $\frac{6}{n} = \frac{3}{7}$

7. $\frac{5}{3} = \frac{n}{6}$

8. $\frac{9}{6} = \frac{6}{n}$

9. $\frac{2}{130} = \frac{1}{n}$

Write a proportion for each model.



12. Shane’s neighbor pledged \$1.25 for every 0.5 miles that Shane swims in the charity swim-a-thon. If Shane swims 3 miles, how much money will his neighbor donate?

13. Barbara’s goal is to practice piano 20 minutes for every 5 minutes of lessons she takes. If she takes a 20 minute piano lesson this week, how many minutes should she practice this week?

LESSON

5

Proportional Relationships

Practice B: Percents

Write each percent as a fraction in simplest form.

1. 30%

2. 42%

3. 18%

4. 35%

5. 100%

6. 29%

7. 56%

8. 70%

9. 25%

Write each percent as a decimal.

10. 19%

11. 45%

12. 3%

13. 80%

14. 24%

15. 6%

16. Sarah correctly answered 84% of the questions on her math test. What fraction of the test questions did she answer correctly? Write your answer in simplest form.

17. Chloe swam 40 laps in the pool, but this was only 50% of her total swimming workout. How many more laps does she still need to swim?

LESSON
6

Proportional Relationships

Practice B: Percents, Decimals, and Fractions

Write each decimal as a percent.

1. 0.03

2. 0.92

3. 0.18

4. 0.49

5. 0.7

6. 0.09

7. 0.26

8. 0.11

9. 1.0

Write each fraction as a percent.

10. $\frac{2}{5}$

11. $\frac{1}{5}$

12. $\frac{7}{10}$

13. $\frac{1}{20}$

14. $\frac{1}{50}$

15. $\frac{4}{50}$

Compare. Write $<$, $>$, or $=$.

16. 60% _____ $\frac{2}{3}$

17. 0.4 _____ $\frac{2}{5}$

18. 0.5 _____ 5%

19. $\frac{1}{100}$ _____ 0.03

20. $\frac{7}{9}$ _____ 72%

21. $\frac{3}{10}$ _____ 35%

22. Bradley completed $\frac{3}{5}$ of his homework. What percent of his homework does he still need to complete?

23. After reading a book for English class, 100 students were asked whether or not they enjoyed it. Nine twenty-fifths of the students did not like the book. How many students liked the book?

LESSON
7

Proportional Relationships

Practice B: Percent of a Number

Find the percent of each number.

1. 25% of 56

2. 10% of 110

3. 5% of 150

4. 90% of 180

5. 125% of 48

6. 225% of 88

7. 2% of 350

8. 285% of 200

9. 150% of 125

10. 46% of 235

11. 78% of 410

12. 0.5% of 64

Find the percent of each number. Check whether your answer is reasonable.

13. 55% of 900

14. 140% of 50

15. 75% of 128

16. 3% of 600

17. 16% of 85

18. 22% of 105

19. 0.7% of 110

20. 95% of 500

21. 3% of 750

22. 162% of 250

23. 18% of 90

24. 23.2% of 125

25. 0.1% of 950

26. 11% of 300

27. 52% of 410

28. 250% of 12

29. The largest frog in the world is the goliath, found in West Africa. This type of frog can grow to be 12 inches long. The smallest frog in the world is about 4% as long as the goliath. What is the approximate length of the smallest frog in the world?

LESSON
8

Proportional Relationships

Practice B: Solving Percent Problems

- | | |
|---|---|
| 1. 50 is 40% of what number? _____ | 2. 12 is 25% of what number? _____ |
| 3. 18 is what percent of 60? _____ | 4. 12 is what percent of 96? _____ |
| 5. 4% of what number is 25? _____ | 6. 80% of what number is 160? _____ |
| 7. What percent of 55 is 22? _____ | 8. What percent of 75 is 6? _____ |
| 9. 15 is 30% of what number? _____ | 10. 8% of what number is 2? _____ |
| 11. 7 is what percent of 105? _____ | 12. 24 is 40% of what number? _____ |
| 13. 10% of what number is 14? _____ | 14. 16 is what percent of 200? _____ |
| 15. What percent of 32 is 4? _____ | 16. What percent of 150 is 60? _____ |
| 17. 1% of what number is 11? _____ | 18. 20% of what number is 14? _____ |
| 19. The sales tax on a \$750 computer at J & M Computers is \$48.75. What is the sales tax rate? _____ | |
| 20. A hardcover book sells for \$24 at The Bookmart. Ben pays a total of \$25.02 for the book. What is the sales tax rate? _____ | |

LESSON

1

Measurement and Geometry**Practice B: Converting Customary Units****Convert.**

1. 3 yards = _____ inches
2. _____ yards = 87 feet
3. _____ cups = 104 fluid ounces
4. 4 quarts = _____ pints
5. 4 pounds = _____ ounces
6. 80 ounces = _____ pounds
7. 5 miles = _____ yards
8. _____ gallons = 48 cups
9. _____ cups = 4 pints
10. 36 inches = _____ yards

Compare. Use <, >, or =.

11. 4 quarts ___ 24 cups
12. 2.5 feet ___ 32 inches
13. 8 ounces ___ $\frac{1}{4}$ pound
14. 5 cups ___ 40 fluid ounces
15. 56 ounces ___ 3.5 pounds
16. 2 yards ___ 5 feet
17. 1.5 miles ___ 2,500 yards
18. $3\frac{1}{2}$ tons ___ 6,000 pounds

19. Cassandra drank $8\frac{1}{2}$ cups of water during the mountain hike.

How many fluid ounces of water did she drink?

20. Stan cut a wooden plank into 4 pieces. Each piece was 18 inches long. How long was the plank before Stan cut it?

LESSON
2

Measurement and Geometry

Practice B: Converting Metric Units

Convert.

1. A large thermos holds about 1.5 liters. 1.5 L = _____ mL
2. A computer screen is about 30.75 cm wide. 30.75 cm = _____ mm
3. A beetle weighs about 0.68 g. 0.68 g = _____ mg
4. The distance from Dallas to Denver is 1,260 km. 1,260 km = _____ m
5. 50 cm = _____ mm
6. 3.6 L = _____ mL
7. 6.5 kg = _____ g
8. 0.9 km = _____ m
9. 1.42 m = _____ cm
10. 12.85 mL = _____ L

Compare. Use <, >, or =.

11. 500 millimeters ___ 50 centimeters
12. 6.2 liters ___ 620 milliliters
13. 8.3 kilograms ___ 8,300 grams
14. 2.6 meters ___ 26,000 centimeters
15. An official hockey puck can weigh no more than 170 grams. What is the puck's maximum weight in kilograms?

16. An official hockey puck is 2.54 centimeters thick. What is the official thickness of a hockey puck in millimeters?

17. An official hockey goal is 1.83 meters tall. What is the height of a hockey goal in centimeters?

18. Hockey pucks can be hit at speeds of up to 190 kilometers per hour! How many meters per hour is that?

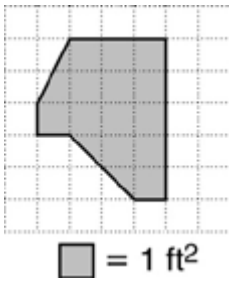
LESSON
3

Measurement and Geometry

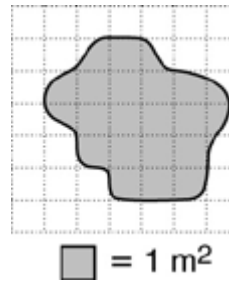
Practice B: Area of Rectangles and Parallelograms

Estimate the area of each figure.

1.

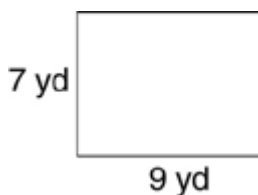


2.

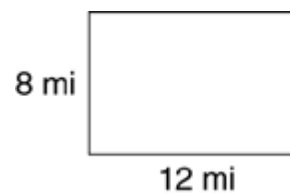


Find the area of each rectangle.

3.

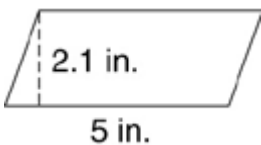


4.

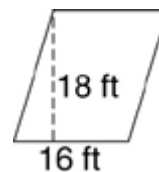


Find the area of each parallelogram.

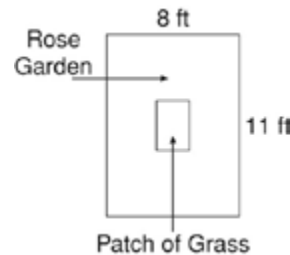
5.



6.



7. Mariah is planting a rectangular rose garden. In the center of the garden, she puts a smaller rectangular patch of grass. The grass is 2 ft by 3 ft. What is the area of the rose garden?



8. A section of a stained-glass window is shaped like a parallelogram. Its base is 6.5 inches, and its height is 4 inches. How much glass is needed to cover the section completely?

9. Your rectangular yard is 10 feet wide and 26 feet long. How many square feet of grass do you need to plant if you want to cover the entire yard?

LESSON
4

Measurement and Geometry

Practice B: Area of Triangles and Trapezoids

Find the area of each triangle.

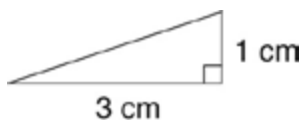
1.



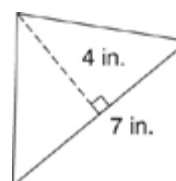
2.



3.

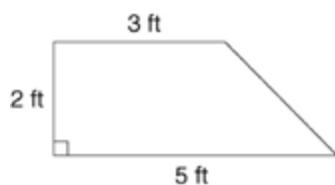


4.

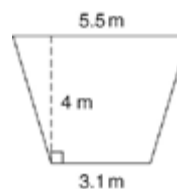


Find the area of each trapezoid.

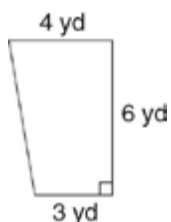
5.



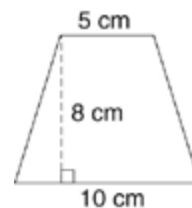
6.



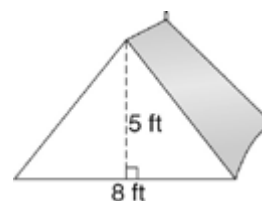
7.



8.



9. The front part of a tent is 8 feet long and 5 feet tall. What is the area of the front part of the tent?



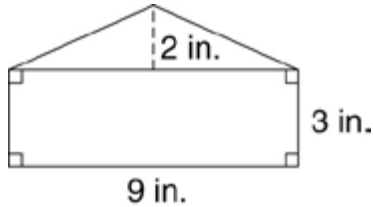
LESSON
5

Measurement and Geometry

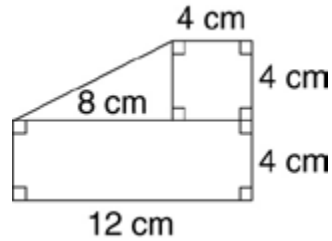
Practice B: Area of Composite Figures

Find the area of each polygon.

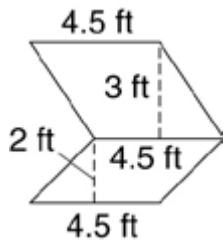
1.



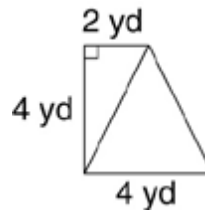
2.



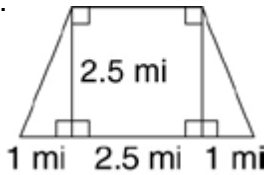
3.



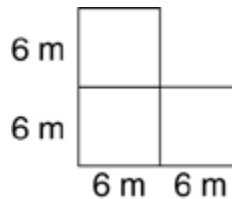
4.



5.



6.



7. Three paintings are shaped like an 8-foot square, a 7-foot by 4-foot rectangle, and a triangle with a 6-foot base and a height of 7 feet. If those paintings are hung together on the outside of a building, how much of the building's wall will they cover altogether?

8. Two diagonals divide a square carpet into 4 congruent triangles. The base of each triangle is 5 feet and the height is 2.5 feet. What is the area of the entire carpet?

LESSON

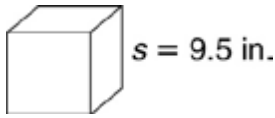
Measurement and Geometry

6

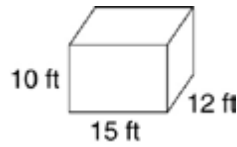
Practice B: Volume of Prisms

Find the volume of each rectangular prism.

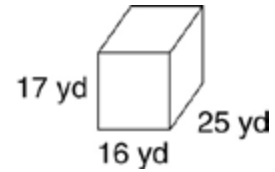
1.



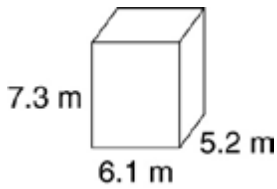
2.



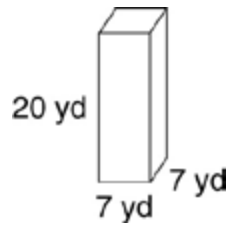
3.



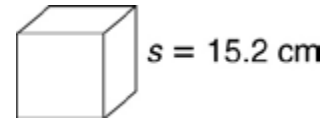
4.



5.

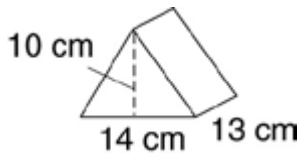


6.

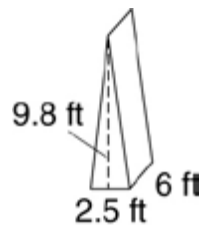


Find the volume of each triangular prism.

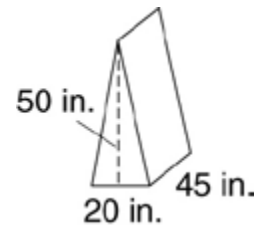
7.



8.



9.



10. Fawn built a sandbox that is 6 feet long, 5 feet wide, and $\frac{1}{2}$ foot tall. How many cubic feet of sand does she need to fill the box?

11. Unfinished lumber is sold in units called board feet. A board foot is the volume of lumber contained in a board 1 inch thick, 1 foot wide, and 1 foot long. How many cubic inches of wood are in 1 board foot?

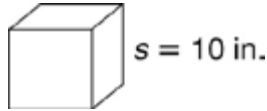
LESSON
7

Measurement and Geometry

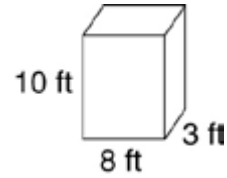
Practice B: Surface Area

Find the surface area S of each prism.

1.

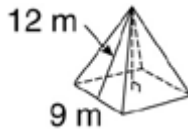


2.



Find the surface area S of each pyramid.

3.

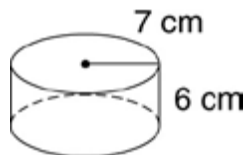


4.

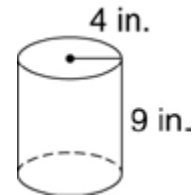


Find the surface area S of each cylinder. Use 3.14 for π .

5.



6.



7. Why can you find an exact surface area measurement for a prism and pyramid but not for a cylinder?

8. The surface area of a rectangular prism is 48 square feet. The area of its front is 4 square feet, and the area of one side is 10 square feet. What is the area of the top of the prism?

LESSON
1

Integers and the Coordinate Plane

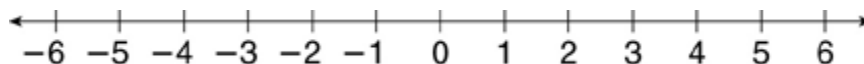
Practice B: Integers and Absolute Value

Name a positive or negative number to represent each situation.

1. depositing \$85 in a bank account 2. riding an elevator down 3 floors

3. the foundation of a house sinking 5 inches 4. a temperature of 98° above zero

Graph each integer and its opposite on the number line.



5. -2 6. +3 7. -5 8. +1

Use the number line from the previous exercises to find the absolute value of each integer.

9. -3 10. 4 11. -6 12. -4

13. The highest point in the state of Louisiana is Driskall Mountain. It rises 535 feet above sea level. Write the elevation of Driskall Mountain as an integer.

14. The lowest point in the state of Louisiana is New Orleans. This city's elevation is 8 feet below sea level. Write the elevation of New Orleans as an integer.

LESSON

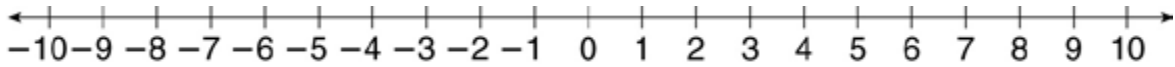
2

Integers and the Coordinate Plane

Practice B: Comparing and Ordering Integers

Use the number line to compare each pair of integers.

Write $<$ or $>$.



1. $10 \underline{\hspace{1cm}} -2$

2. $0 \underline{\hspace{1cm}} 3$

3. $-5 \underline{\hspace{1cm}} 0$

4. $-7 \underline{\hspace{1cm}} 6$

5. $-6 \underline{\hspace{1cm}} -9$

6. $-8 \underline{\hspace{1cm}} -10$

Order the integers in each set from least to greatest.

7. 5, -2, 6

8. 0, 9, -3

9. -1, 6, 1

10. -8, -9, 9

11. 15, 1, -5

12. -4, -7, -2

Order the integers in each set from greatest to least.

13. 8, -6, 4

14. -2, 1, 2

15. 0, 7, -8

16. -1, 1, 0

17. -12, 2, 1

18. -10, -12, -11

19. The lowest point in the Potomac River is 1 foot above sea level. The lowest point in the Colorado River is 70 feet above sea level. The lowest point in the Delaware River is sea level. Write the names of these three rivers in order from the lowest to the highest elevation.

20. The lowest recorded temperature in Alabama was 27°F below zero. In Florida, the lowest recorded temperature was 2°F below zero. The lowest temperature ever recorded in Hawaii was 12°F above zero. Write the names of these three states in order from the highest to the lowest recorded temperatures.

LESSON

Integers and the Coordinate Plane

3

Practice B: The Coordinate Plane

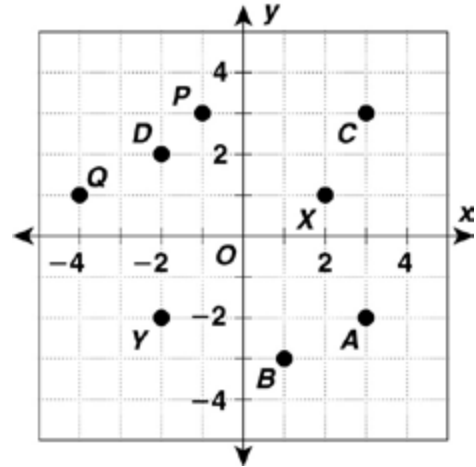
Use the coordinate plane for Exercises 1–12.

Name the quadrant where each point is located.

- | | |
|-------------------|-------------------|
| 1. <i>D</i> _____ | 2. <i>P</i> _____ |
| 3. <i>Y</i> _____ | 4. <i>B</i> _____ |
| 5. <i>C</i> _____ | 6. <i>X</i> _____ |

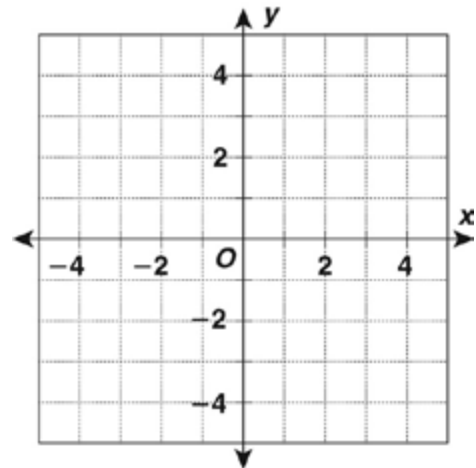
Give the coordinates of each point.

- | | |
|--------------------|--------------------|
| 7. <i>X</i> _____ | 8. <i>A</i> _____ |
| 9. <i>P</i> _____ | 10. <i>Q</i> _____ |
| 11. <i>Y</i> _____ | 12. <i>D</i> _____ |



Graph each point on the coordinate plane at right.

- | | |
|----------------------|-----------------------|
| 13. <i>X</i> (3, 1) | 14. <i>T</i> (-2, -2) |
| 15. <i>C</i> (1, -2) | 16. <i>U</i> (0, -3) |
| 17. <i>P</i> (2, 0) | 18. <i>A</i> (-4, -1) |



19. Does every point lie in a quadrant? Explain.

20. When a point lies on the *x*-axis, what do you know about its *y*-coordinate? When a point lies on the *y*-axis, what do you know about its *x*-coordinate?

LESSON

4

Integers and the Coordinate Plane

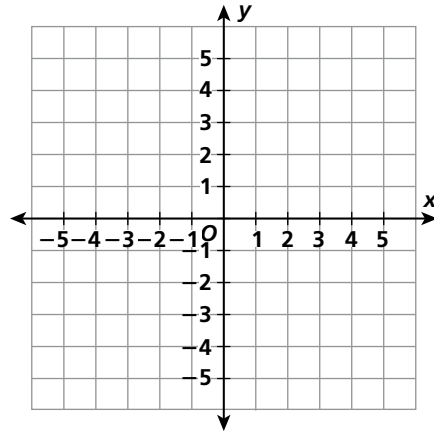
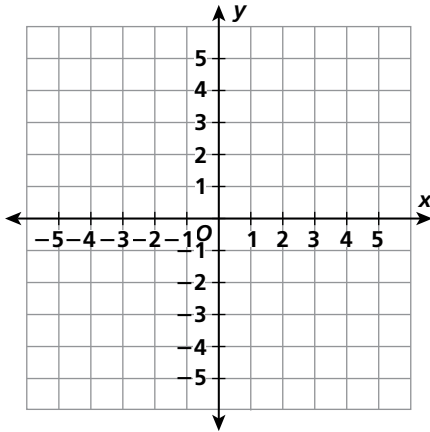
Practice B: Polygons in the Coordinate Plane

Graph the polygons with the given coordinates.

1. triangle: $W(-4, 1)$, $X(3, -1)$, $Z(-1, -3)$

2. rectangle: $A(2, 3\frac{1}{2})$, $B(-1, 3\frac{1}{2})$,

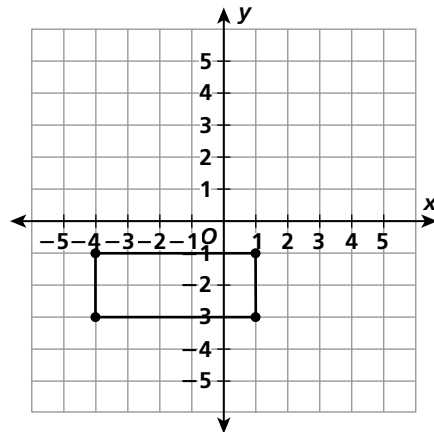
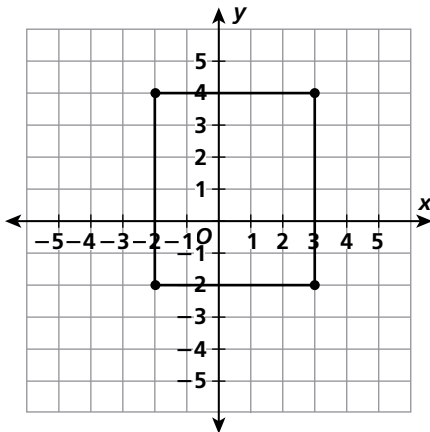
$C(-1, -3)$, $D(2, -3)$



Find the perimeter of each rectangle.

3. _____

4. _____



5. Sylvia draws a scale model of her room in feet on a coordinate grid. The corners are located at $(-8, 4)$, $(3, 4)$, $(3, -6)$, and $(-8, -6)$. She wants to apply a border all the way around the top of the walls. What is the length in feet of the border Sylvia needs?

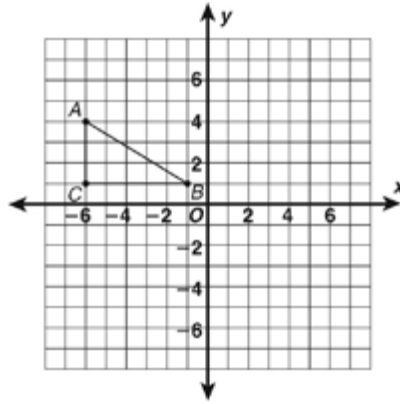
LESSON

5

Integers and the Coordinate Plane

Practice B: Transformations in the Coordinate Plane

Use the graph below for Exercises 1–3. Apply the given transformation. Give the coordinates of each vertex in the image.



1. a translation 4 units right and 5 units down

A' _____ B' _____ C' _____

2. a reflection across the x -axis

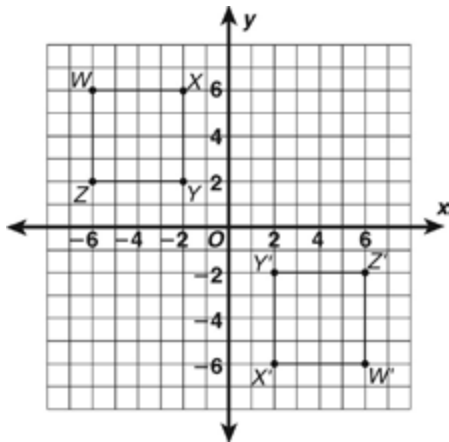
A' _____ B' _____ C' _____

3. a rotation 90° clockwise about the origin

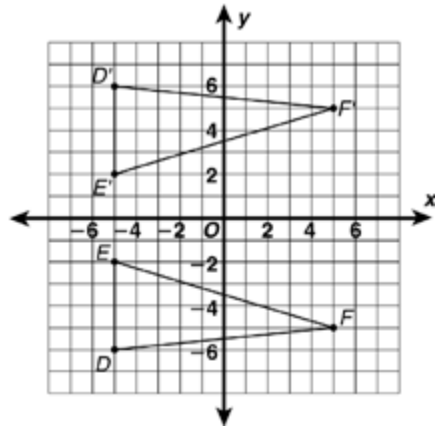
A' _____ B' _____ C' _____

Describe each transformation.

4.



5.



LESSON

1

Functions

Practice B: Tables and Functions

Write an equation for a function that gives the values in each table. Use the equation to find the value of y for the indicated value of x .

1.

| | | | | | |
|-----|---|----|----|----|---|
| x | 1 | 2 | 3 | 4 | 5 |
| y | 7 | 14 | 21 | 28 | ◆ |

2.

| | | | | | |
|-----|----|----|----|---|---|
| x | 2 | 3 | 4 | 5 | 6 |
| y | -3 | -2 | -1 | 0 | ◆ |

3.

| | | | | | |
|-----|----|----|----|---|---|
| x | 20 | 16 | 12 | 8 | 4 |
| y | 10 | 8 | 6 | 4 | ◆ |

4.

| | | | | | |
|-----|----|----|----|----|----|
| x | 7 | 8 | 9 | 10 | 11 |
| y | 11 | 12 | 13 | 14 | ◆ |

Write an equation for the function. Tell what each variable you use represents.

5. Amanda is 7 years younger than her cousin.

6. The population of North Carolina is twice as large as the population of South Carolina.

7. An Internet book company charges \$7 for each paperback book, plus \$2.75 for shipping and handling per order.

8. Henry records how many days he rides his bike and how far he rides each week. He rides the same distance each time. He rode 18 miles in 3 days, 24 miles in 4 days, and 42 miles in 7 days. Write an equation for the function.

LESSON
2

Functions

Practice B: Graphing Functions

Use the given x -values to write solutions of each equation as ordered pairs.

1. $y = 5x + 3$ for $x = 1, 2, 3$

2. $y = -4x$ for $x = 3, 5, 7$

Determine whether each ordered pair is a solution of the given equation.

3. $(6, 4); y = 2x - 8$ _____

4. $(8, 72); y = x \div 9$ _____

5. $(-3, -18); y = -6x$ _____

6. $(5, 64); y = 12x + 4$ _____

Use the graph of the linear function to find the value of y for each given value of x .

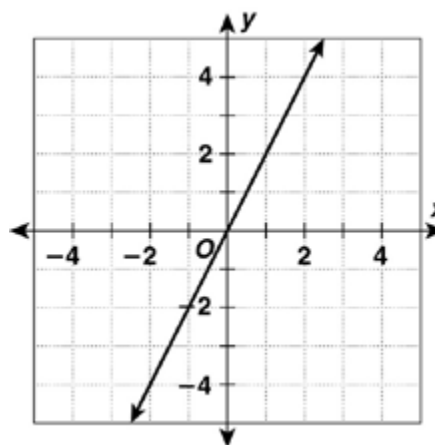
7. $x = 2$ _____

8. $x = 1$ _____

9. $x = 0$ _____

10. $x = -1$ _____

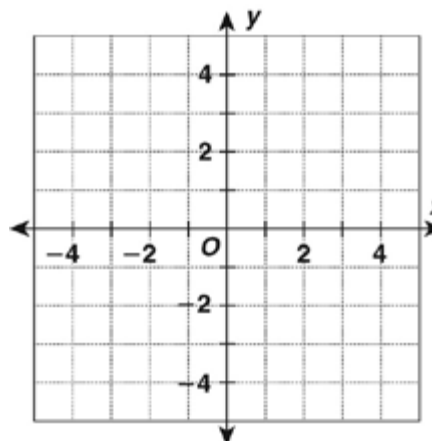
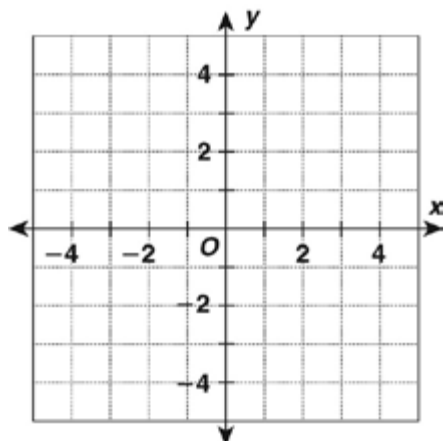
11. $x = -2$ _____



Graph the function described by each equation.

12. $y = x + 1$

13. $y = 3 - x$



LESSON
3

Functions

Practice B: Slope and Rate of Change

Tell whether the rates of change are constant or variable.

1.

| | | | | | |
|----------|---|---|----|----|----|
| x | 1 | 2 | 3 | 6 | 10 |
| y | 1 | 6 | 11 | 26 | 46 |

2.

| | | | | | |
|----------|-----|------|------|----|----|
| x | 1 | 3 | 5 | 6 | 8 |
| y | 3.5 | 10.5 | 17.5 | 21 | 28 |

3.

| | | | | | |
|----------|-----|---|---|-----|---|
| x | 0 | 1 | 3 | 6 | 7 |
| y | 1.5 | 2 | 3 | 4.5 | 5 |

4.

| | | | | | |
|----------|---|---|----|---|----|
| x | 0 | 1 | 2 | 3 | 6 |
| y | 3 | 6 | 16 | 9 | 21 |

5.

| | | | | | |
|----------|----|-----|-----|-----|-----|
| x | 10 | 15 | 16 | 18 | 20 |
| y | 0 | 125 | 156 | 224 | 300 |

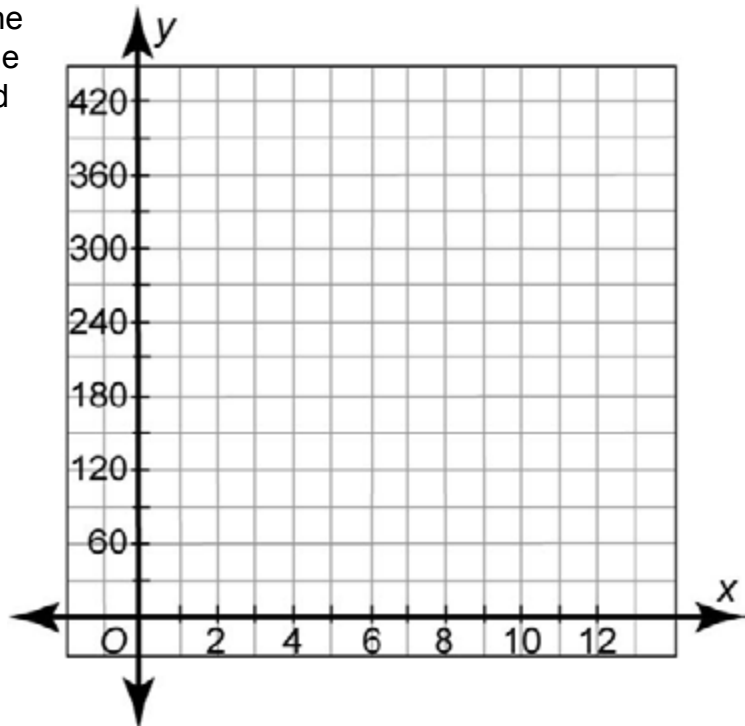
6.

| | | | | | |
|----------|------|----|------|----|----|
| x | 0 | 1 | 2 | 7 | 10 |
| y | 10.5 | 12 | 17.5 | 21 | 28 |

7. Dana is a racecar driver. Her coach recorded the amount of time it took her to make several laps around the track.

| | | | | | |
|--------------------------|----|-----|-----|-----|-----|
| Number of Laps | 1 | 3 | 6 | 8 | 12 |
| Number of Seconds | 34 | 102 | 204 | 272 | 408 |

Graph the data and connect the points with line segments. If the rate of change is constant, find and interpret the slope.



LESSON
4

Functions


Practice B: Inequalities

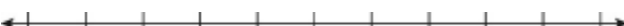
Write an inequality for each situation.


1. The temperature today will be at most 50 °F. _____
2. The temperature tomorrow will be above 70 °F. _____
3. Yesterday, there was less than 2 inches of rain. _____
4. Last Monday, there was at least 3 inches of rain. _____

Graph each inequality.

5. $t \leq -2$ 


6. $j > -5$ 

7. $y \leq 0$ 

8. $b < \frac{1}{2}$ 

Graph each compound inequality.

9. $f > 3$ or $f < -2$ 

10. $-4 \leq w \leq 4$ 

11. $b < 0$ or $b \geq 5$ 

12. $y \geq 3$ or $y \leq -1$ 

13. $-4 < m < -2$ 

