

Chapter 1 Review Exercises

For each, fill in the blank with the correct word from the Word List. Each word in the Word List will be used only once.

- | | Word List |
|--|------------------|
| 1. A(n) _____ describes how many of something there is. (1.1) | addition |
| 2. A(n) _____ is a symbol that represents a number. (1.1) | area |
| 3. There are ten _____ in our base-ten numbering system. (1.1) | coefficient |
| 4. Addition and division are two _____. (1.1) | composite |
| 5. To _____ means “to find the value of.” (1.1) | constant |
| 6. For addition, the _____ is 0. (1.1) | digits |
| 7. The _____ of a geometric figure is the sum of the lengths of the sides. (1.1) | evaluate |
| 8. Multiplication is an abbreviation for repeated _____. (1.1) | factors |
| 9. The numbers in a product are called _____. (1.1) | identity |
| 10. If a and b are two whole numbers, then their product, $a \cdot b$, is a(n) _____ of a . (1.1) | legend |
| 11. The answer to an exact division is called the _____. (1.1) | multiple |
| 12. _____ is the amount of surface in an enclosed region. (1.4) | number |
| 13. A(n) _____ number has more than two factors. (1.6) | numeral |
| 14. A(n) _____ is a letter that represents a number. (1.7) | operations |
| 15. In the expression $y + 7$, the number 7 is called the _____. (1.7) | perimeter |
| 16. The _____ of an equation makes the equation true. (1.7) | quotient |
| 17. In the expression $9 \cdot x$, the number 9 is called the _____. (1.7) | solution |
| 18. The _____ describes the unknown value in an application problem. (1.8) | variable |

Section 1.1

Evaluate this expression by first evaluating the quantity within the parentheses.

19. $10 - (2 + 6)$ 20. $(12 + 9) \div 3$ 21. $(11 - 6) \times 4$ 22. $12 \square (3 \times 4)$

Evaluate this expression by first distributing.

23. $7 \cdot (1 + 8)$ 24. $4 \cdot (6 + 10)$ 25. $8 \cdot (10 + 5)$ 26. $11 \cdot (4 + 7)$

Which property is being demonstrated?

27. $39 \cdot 1 = 39$ 28. $4 + (3 + 7) = (4 + 3) + 7$
29. $74 + 15 = 15 + 74$ 30. $0 + 26 = 26$
31. $6 \cdot (5 + 8) = 6 \cdot 5 + 6 \cdot 8$ 32. $4 \times 9 = 9 \times 4$

Section 1.2

Round each number to the nearest ten.

33. 642 34. 295 35. 1,450 36. 2,996

Round each number to the nearest hundred.

37. 642 38. 30,295 39. 126,450 40. 4,949

Round each number to the nearest thousand.

41. 30,529 42. 54,067 43. 249,801 44. 812

Rewrite the underlined phrase using the requested approximation.

45. In 2003, the total number of full-time airline employees was 507,091. Round this number to the nearest *ten thousand*. (Source: *bts.gov*)
46. In 2004, the U.S. population, was 294,490,706. Round this number to the nearest *hundred thousand*. (Source: *census.gov*)

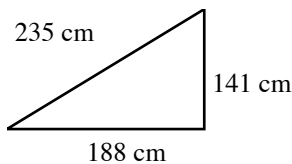
Section 1.3

Work each application and answer with a complete sentence.

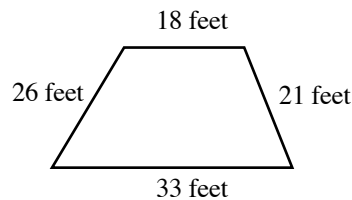
47. On Tuesday morning, Brian rode an exercise bike for one-half hour and burned 387 calories. After a break he rode another half hour and burned 295 calories. How many total calories did Brian burn on the exercise bike that morning?
48. Kaira added up her test scores for the first three math tests. Her scores were 89, 75, and 92. What is the total number of points Kaira received on her first three tests?

Find the perimeter of each figure.

49.



50.

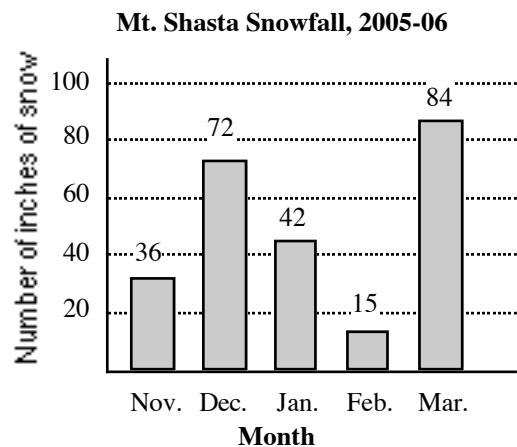


Work each application and answer with a complete sentence.

51. In 2003, the average attendance for the Washington Redskins home games was 80,500. The average attendance for the Chicago Bears home games was 61,603. On average, how many more fans were in attendance at Washington home games than Chicago home games? (Source: Kenn.com)
52. The total area of Nevada is 110,561 square miles, and the total area of Michigan is 96,716 square miles. How much larger (in square miles) is Nevada than Michigan? (Source: 2005 World Almanac)

The bar graph at right shows the monthly snowfall at Mt. Shasta, California, during the 2005-06 snow season

53. How many more inches did Mt. Shasta receive in March than in November?
54. How many total inches did Mt. Shasta receive during the 2005-06 snow season?



Section 1.4

Work each application and answer the question with a complete sentence.

- 55.** Marley drives 38 miles round trip to work and home each workday. In March she worked 23 days. How many total miles did Marley drive to and from work in March?
- 56.** Colin's basement floor is in the shape of a rectangle. The width is 19 feet and the length is 34 feet. What is the area of Colin's basement floor?
- 57.** The Jacksonville Rotary club purchased a trailer to sell food from at county fairs. Each of the 24 members had to contribute the same portion to pay for the \$6,360 trailer. How much was each member's contribution?
- 58.** 405 sixth grade students are visiting a college. The director of the event wants to divide them up into different classrooms for the variety of programs planned. If each classroom can hold 32 students, how many classrooms are needed?

Section 1.5

Expand each and find its value.

- 59.** 1^6 **60.** 2^4 **61.** 3^5 **62.** 4^3
- 63.** 16^1 **64.** 17^2 **65.** 20^3 **66.** 10^7

Express each as a power of 10.

- 67.** 1,000 **68.** 10,000,000 **69.** 100,000 **70.** 10

Rewrite each number as a product of a whole number and a power of 10.

- 71.** 70 **72.** 8,400 **73.** 300,000 **74.** 1,200,000

Evaluate the following square roots.

- 75.** $\sqrt{36}$ **76.** $\sqrt{4}$ **77.** $\sqrt{9}$ **78.** $\sqrt{100}$

Evaluate each according to the order of operations. Simplify just one step, one operation at a time. Show all work.

79. $(18 - 4) \div 2$ 80. $18 - 4 \div 2$ 81. $54 \div 3^2$ 82. $6^2 - 5 \cdot 3$
83. $8 \div 2^2 + 7$ 84. $4^2 \cdot 2 - 2$ 85. $24 \div 3 \cdot 4 - 2$ 86. $12 - 30 \div (6 + \square\square 4)$
87. $(6 - 2) \cdot (12 \div 3)$ 88. $24 \div 3 \cdot (4 - 2)$ 89. $23 - \sqrt{16}$ 90. $\sqrt{4^2 + 9}$

Section 1.6

List the first five multiples of each of the following.

91. 3 92. 6 93. 11 94. 12

Use a factor pair table to find all of the factor pairs of the following.

95. 18 96. 36 97. 45 98. 60

Of the following, determine which are prime, which are composite, and which are neither.

99. 15, 17, 29, 0, 81, 45, 11 100. 2, 61, 70, 43, 62, 1, 31, 57

Of the first three prime numbers—2, 3, and 5—which are factors of the following?

101. 147 102. 230 103. 625 104. 1,782

Determine if 9 is a factor of each number. Verify your answer by dividing each number by 9.

105. 171 106. 5,292 107. 6,708 108. 17,451

Find the prime factorization of the following using any method you choose. Write the answers two ways: with and without exponents.

109. 108 110. 162 111. 210 112. 215

Section 1.7

For each, replace the variable with 12 and decide whether or not 12 is the solution.

113. $41 = n + 19$ 114. $18 + x = 30$ 115. $6 \cdot y = 72$ 116. $350 = w \cdot 25$

Solve the following. Check each answer to show that it is the solution.

117. $c + 7 = 15$

118. $72 = x + 39$

119. $2,094 + 3,516 + m = 10,000$

120. $p \cdot 7 = 98$

121. $490 = 5 \cdot y$

122. $35 \cdot w = 1,260$

Section 1.8

Work each application and answer it in a complete sentence.

123. Carlotta sells bedroom furniture. Her company gives her bonus pay if she has sales of \$20,000 or more during the Labor Day weekend (Saturday through Monday). On Saturday she sold \$10,560 of merchandise. On Sunday, she had sales of \$6,280. What do Carlotta's sales need to be on Monday to reach the \$20,000 goal?
124. Rhani purchased a used car for \$4,500 from her parents. She has agreed to pay them back over the next three years with 36 equal monthly payments. How much will Rhani pay her parents each month?
125. Antonio is a waiter at a pricey restaurant. Last Saturday he waited on 14 tables and earned \$266 in tips. On average, how much in tips did Antonio earn from each table?
126. The carpeted children's reading room at the library is in the shape of a rectangle. The carpet is 9 yards wide and has an area of 243 square yards. What is the length of the carpet?