LESSON 2.1

Name _____ Date _____

Practice B

For use with pages 63–68

Evaluate the expression using mental math. Justify each of your steps.

1. $4(19)(-25)$ **2.** $17 + 32 + 23$ **3.** $6.8 + 9.7 + 2.2$

4. $3.06 + 5.37 + 4.94$ **5.** $10(-8)(-10)(4)$ **6.** $-15(-9)(4)(5)$

Evaluate the expression when $a = 10$, $b = -4$, and $c = -2$.

7. a^2bc^2 **8.** $23 \cdot 5c^2$ **9.** $3bc^2$

10. $a^2b \cdot 6$ **11.** $9a^2 + 9b \cdot 25$ **12.** $3b + 5a + (-6c)$

Simplify the expression.

13. $s + 7 + 96$ **14.** $-33 + j + 14$ **15.** $-21(3t)$

16. $32r(-6)$ **17.** $5.36 + p + 6.47$ **18.** $-2.05x(3.01)$

19. Identify the property illustrated by the statement $(14 \cdot 7) \cdot x = 14 \cdot (7 \cdot x)$.

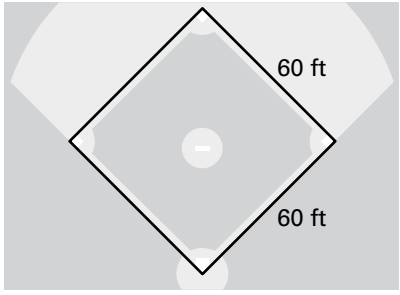
20. Identify the property illustrated by the statement $18^3 + 0 = 18^3$.

Use a conversion factor to perform the indicated conversion.

21. 27 yards to feet **22.** 160 kilometers to meters

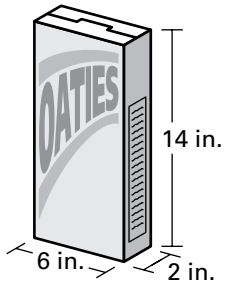
23. 540 seconds to minutes **24.** 112 ounces to pounds

25. The area of the infield of a college softball field is 3600 square feet. Use a conversion factor to find the area of the infield of a college softball field in square yards.



26. During the summer, you work 5 hours a day as a lifeguard at a beach and earn \$8 each hour. Use properties of multiplication to find how much money you earn during a 6-day work week.

27. The cereal box at the right is 14 inches high, 6 inches long, and 2 inches wide. The formula for the volume of a box is $V = \ell wh$. Find the volume of the box in cubic inches.



Answers

Lesson 2.1

Practice A

1. 49 **2.** 102 **3.** −210 **4.** −540 **5.** 16.7
6. −19.2 **7.** 61 **8.** 27 **9.** −2300 **10.** 260
11. 900 **12.** −300 **13.** $x + 22$ **14.** $14 + z$
15. $-24b$ **16.** $-72a$ **17.** $-10s$ **18.** $-16 + c$
19. commutative property of addition
20. identity property of multiplication
21. 4 hours **22.** 10,560 feet **23.** 9 pounds
24. 15.7 cm **25.** 5040 cm^3 **26.** $46
27. 0.75 m^2

Practice B

1. −1900 **2.** 72 **3.** 18.7 **4.** 13.37
5. 3200 **6.** 2700 **7.** −1600 **8.** 460
9. −48 **10.** −2400 **11.** 0 **12.** 50
13. $s + 103$ **14.** $-19 + j$ **15.** $-63t$
16. $-192r$ **17.** $11.83 + p$ **18.** $-6.1705x$
19. associative property of multiplication
20. identity property of addition **21.** 81 ft
22. 160,000 m **23.** 9 minutes **24.** 7 lb
25. 400 square yards **26.** $240
27. 168 cubic inches

Practice C

1. 1.2 **2.** 19.413 **3.** 1.612 **4.** 1500
5. −160 **6.** −3600 **7.** −1775 **8.** 290
9. 1500 **10.** 51,200 **11.** 2016 **12.** $500 + n$
13. $-23 + (-k)$ **14.** $-56z$ **15.** $648c$
16. $100j$ **17.** $-315t$ **18.** associative property of multiplication **19.** associative property of addition **20.** 7000 lb **21.** 15 hours
22. 3 square feet **23.** 45,600 square centimeters
24. 288 cubic inches **25.** 49 square yards

Review for Mastery

1. 85 **2.** 135 **3.** 106 **4.** 270 **5.** $x - 5$
6. $63x$ **7.** 36 months

Problem Solving Workshop

1. $\frac{62 \text{ miles}}{100 \text{ kilometers}}$ **2.** 31 miles
3. 62 miles per hour
4. 60 kilometers per hour ≈ 37 miles per hour;
70 kilometers per hour ≈ 43 miles per hour;
80 kilometers per hour ≈ 50 miles per hour;
110 kilometers per hour ≈ 68 miles per hour
5. about 244 miles

Challenge Practice

1.

$17 + 28 + 33 + 12 = (17 + 28) + 33 + 12$
Use order of operations.
$= (28 + 17) + 33 + 12$
Comm. prop. of add.
$= 28 + (17 + 33) + 12$
Assoc. prop. of add.
$= 28 + 50 + 12$
Add 17 and 33.
$= (28 + 50) + 12$
Use order of operations.
$= (50 + 28) + 12$
Comm. prop. of add.
$= 50 + (28 + 12)$
Assoc. prop. of add.
$= 50 + 40$ Add 28 and 12.
$= 90$ Add 50 and 40.

2.

$1.25 + 3.25 + 4.75 + 3.5$
$= (1.25 + 3.25) + 4.75 + 3.5$ Use order of operations.
$= 4.5 + 4.75 + 3.5$ Add 1.25 and 3.25.
$= (4.5 + 4.75) + 3.5$ Use order of operations.
$= (4.75 + 4.5) + 3.5$ Comm. prop. of add.
$= 4.75 + (4.5 + 3.5)$ Assoc. prop. of add.
$= 4.75 + 8$ Add 4.5 and 3.5.
$= 12.75$ Add 4.75 and 8.

3.

$12(13)(5)(-9)$
$= [12(13)](5)(-9)$ Use order of operations.
$= [13(12)](5)(-9)$ Comm. prop. of mult.
$= 13[12(5)](-9)$ Assoc. prop. of mult.
$= 13(60)(-9)$ Multiply 12 and 5.
$= 13[60(-9)]$ Assoc. prop. of mult.
$= 13(-540)$ Multiply 60 and −9.
$= -7020$ Multiply 13 and −540.