

## LESSON

## 2-2

**Dividing Integers****Practice and Problem Solving: A/B****Find each quotient.**

1.  $7 \overline{) -84}$

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2.  $-38 \div -2$

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3.  $-27 \overline{) 81}$

\_\_\_\_\_

4.  $-28 \div 7$

\_\_\_\_\_

5.  $-121 \div -11$

\_\_\_\_\_

6.  $-35 \div 4$

\_\_\_\_\_

**Simplify.**

7.  $(-6 - 4) \div 2$

\_\_\_\_\_

8.  $5(-8) \div 4$

\_\_\_\_\_

9.  $-6(-2) \div 4(-3)$

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**Write a mathematical expression for each phrase.**

10. thirty-two divided by the opposite of 4

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11. the quotient of the opposite of 30 and 6, plus the opposite of 8

\_\_\_\_\_

12. the quotient of 12 and the opposite of 3 plus the product of the opposite of 14 and 4

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**Solve. Show your work.**

13. A high school athletic department bought 40 soccer uniforms at a cost of \$3,000. After soccer season, they returned some of the uniforms but only received \$40 per uniform. What was the difference between what they paid for each uniform and what they got for each return?

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14. A commuter has \$245 in his commuter savings account.

a. This account changes by  $-\$15$  each week he buys a ticket. In one time period, the account changed by  $-\$240$ . For how many weeks did the commuter buy tickets?

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b. How much must he add to his account if he wants to have 20 weeks worth of tickets in his account?

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## Success for English Learners

1.  $-20$
2.  $3$
3.  $(-20) \times (3)$
4.  $-\$60$
5. Sample answer: You know the product will be either  $400$  or  $-400$ . It will be  $400$  because both factors are negative, so the product is positive.
6. Yes. The product of both will be negative because there is one positive factor and one negative factor. Since  $4 \times 8 = 32$ , each product will be  $-32$ .

## LESSON 2-2

### Practice and Problem Solving: A/B

1.  $-12$
2.  $19$
3.  $-3$
4.  $-4$
5.  $11$
6.  $-8.75$
7.  $-5$
8.  $-10$
9.  $-1$
10.  $32 \div (-4)$
11.  $\frac{-30}{6} + (-8)$
12.  $12 \div (-3) + (-14)4$
13.  $\$3,000 \div 40 = \$75$ ;  $\$75 - \$40 = \$35$
14. a.  $-240 \div (-15) = 16$ ; 16 weeks  
b.  $20 \times \$15 = \$300$ ;  $\$300 - \$245 = \$55$

### Practice and Problem Solving: C

1.  $-16$
2.  $2$
3.  $3\frac{2}{3}$
4.  $+2$  produces  $+2$ ;  $+3$  produces  $+6$ .
5.  $+2$  produces  $+2$ .
6. None of the integers from  $-3$  to  $3$  produces a positive, even integer.

7.  $+1$  produces  $+2$ .
8.  $-16 \div 4 = -4$ ;  $-4$  points for each penalty
9. a.  $58^\circ\text{F}$ ;  $70^\circ\text{F} - (6 \text{ yd})(2^\circ\text{F}/\text{yd}) = 70^\circ\text{F} - 12^\circ\text{F} = 58^\circ\text{F}$ ; from  $6 \text{ yd}$  to  $15 \text{ yd}$  deep, the temperature is constant, so at  $10 \text{ yd}$  deep, the temperature is  $58^\circ\text{F}$ .  
b.  $73^\circ\text{F}$ ;  $50 \text{ ft} = 16\frac{2}{3} \text{ yd}$  below the surface; at  $15 \text{ yd}$  below the surface, the temperature is  $58^\circ\text{F}$ . But, from  $15 \text{ yd}$  to  $20 \text{ yd}$  the temperature increases  $3^\circ\text{F}$  per ft.  $16\frac{2}{3} \text{ yd}$  is  $16\frac{2}{3} - 15$  or  $1\frac{2}{3} \text{ yd}$ , which is  $5 \text{ ft}$ , so the temperature there is  $58^\circ\text{F} + (5 \text{ ft})(3^\circ\text{F}/\text{ft})$  or  $58^\circ\text{F} + 15^\circ\text{F} = 73^\circ\text{F}$ .  
c.  $70^\circ\text{F} - (6 \text{ yd})(2^\circ\text{F}/\text{yd}) + (5)(3 \text{ ft})(3^\circ\text{F}) = 103^\circ\text{F}$  at the spring source

### Practice and Problem Solving: D

1.  $5$
2.  $-9$
3.  $-4$
4.  $>$
5.  $<$
6.  $=$
7.  $-45 \div 5 = -9$
8.  $\frac{55}{-11} = -5$
9.  $-38 \div 19 = -2$
10.  $-4 \div -2 = 2$
11.  $-24 \div 4 = -6$ ; On average, each investor lost  $6\%$ .
12.  $-760 \div 4 = -190$ ; On average, the temperature dropped  $190^\circ/\text{h}$ .
13.  $-5,100 \div 3 = -1,700$ ; On average, the car's value decreased  $\$1,700/\text{yr}$ .

### Reteach

1. right; negative; negative
2. left; negative; positive
3. left; positive; negative