

## Independent Practice

## Equations and Inequalities A.1, A.3

### Read and solve.

1. What is the value of  $\frac{a+b}{2b}$  if  $a = 10$  and  $b = 15$ ?

- A.  $\frac{5}{6}$
- B.  $\frac{5}{4}$
- C. 5
- D. 25

2. Which is an example of the commutative property of addition?

- A.  $3 + 5m = 3 + (1 + 4)m$
- B.  $3 + 5m = 5m + 3$
- C.  $3 + 5m = (3 + 5)m$
- D.  $3 + 5m = 3m + 5$

3. What property of real numbers justifies the following statements?

$$4x(y + 2) - 3y \text{ is equivalent to } 4x(y) + 4x(2) - 3y$$

- A. the associative property of multiplication
- B. the commutative property of multiplication
- C. the distributive property of multiplication over addition
- D. the closure property of multiplication

4. The statement “If  $2(3a - 4) = 12$ , then  $6a - 8 = 12$ ” is justified by the

- A. Associative property of multiplication
- B. Multiplication property of equality
- C. Addition property of equality
- D. Distributive property

5. Using the distance formula,  $d = rt$ , what is the value of  $t$  when  $d = 3,520$  and  $r = 550$ ?

- A. 6.4
- B. 2,970
- C. 4,070
- D. 1,936,000

**Independent Practice—continued**

6. What is the solution to  $2x - 4 < 6$ ?

- A.  $x < 1$
- B.  $x < 5$
- C.  $x < 10$
- D.  $x > 1$

7. A rectangle has a perimeter of 60 inches and length of 22 inches. What is the width of the rectangle?

- A. 176 in.
- B. 164 in.
- C. 14 in.
- D. 8 in.

8. What is the solution to  $3(x - 5) \geq 12$ ?

- A.  $x \leq 1$
- B.  $x \geq -1$
- C.  $x \geq \frac{17}{3}$
- D.  $x \geq 9$

9. What is the solution to  $6x + 4 = -20$ ?

- A.  $x = 4$
- B.  $x = 13.3$
- C.  $x = -2.66$
- D.  $x = -4$

10. Mary published her first book. She was given \$10,000.00 and an additional \$0.10 for each copy of the book that sold. Her earnings,  $d$ , in dollars, from the publication of her book are given by

$$d = 10,000 + 0.1n$$

where  $n$  is the number of copies sold. During the first year Mary earned \$35,000.00 from the publication and sale of her book. How many copies of her book sold in the first year?

- A. 25,000
- B. 35,000
- C. 250,000
- D. 350,000

### Independent Practice--continued

11. Pauline sells cookie baskets. She charges \$5 for the basket plus \$2 per cookie. If one filled basket sells for \$31, how many cookies are in it?

- A. 13
- B. 15
- C. 18
- D. 20

12. Victor bought a computer for \$1,800. He made a down payment of \$200 and will pay the rest in 5 equal payments. If  $p$  represents the amount of each payment, which equation can be used to find this amount?

- A.  $\$200p = \$1,800$
- B.  $\$1,800 + 5p = \$200$
- C.  $\$1,800 + \$200 = 5p$
- D.  $\$1,800 = 5p + \$200$

13. What is the solution to  $6 - 2x < 18$ ?

- A.  $x > -12$
- B.  $x > -6$
- C.  $x < -6$
- D.  $x < 12$

14. What is the solution to  $5(2x - 4) = 7x + 10$ ?

- A. -6
- B.  $-\frac{10}{17}$
- C. 7
- D. 10