

SOL Mini-Challenge**Equations and Inequalities
A.4, A.5****Read and solve.**

1. Which property justifies the statement “If $3a + 3b = 12$, then $3(a + b) = 12$ ” ?

- A. Commutative property of multiplication
- B. Distributive property for multiplication over addition
- C. Multiplicative identity property
- D. Associative property of addition

2. Which is a solution to $(2x + 3) = 25$?

- F. -4
- G. -2
- H. 2
- J. 11

3. Kristy is making a rectangular quilt that is 2 feet longer than it is wide. If the perimeter of the quilt is to be 32 feet, what will be its dimensions?

- A. 4 ft by 8 ft
- B. 5 ft by 7 ft
- C. 7 ft by 9 ft
- D. 15 ft by 17 ft

4. What is the solution to $2x + 3 \geq x - 5$?

F. $x \geq \frac{-8}{3}$

G. $x \geq -8$

H. $x \geq \frac{-2}{3}$

J. $x \geq -2$

5. What is the value of x if $-3x - 4 = 4x + 10$?

- A. 2
- B. $-\frac{6}{7}$
- C. -2
- D. -14

SOL Mini-Challenge—continued

6. What is the solution to $-2x + 6 \geq 3x - 4$?

- F. $x \geq -2$
- G. $x \geq 2$
- H. $x \leq -2$
- J. $x \leq 2$

7. What is the solution to $2(-3x + 4) = 4(-2x + 6)$?

- A. -8
- B. -1
- C. 1
- D. 8

8. What is the solution to $2(4 - x) > 5x + 8$?

- F. $x < -8$
- G. $x < 0$
- H. $x > 0$
- J. $x > 8$

9. Which statement is *always* true?

- A. $4 + a = 4 \times a$
- B. $a + (-4 + 4) = a + 0$
- C. $a \div 4 = 4 \div a$
- D. $4 - a = a - 4$

10. If $A < B$, which of the following statements *cannot* be true?

- F. $A + C < B + C$
- G. $A - C < B - C$
- H. $AC < BC$
- J. $-A < -B$