

**Directions:** Please choose the best answer choice for each of the following questions.

1. Solve for  $a$ .

$$\frac{1}{2}a + 3 = 5$$

- A.  $a = 1$
- B.  $a = 2$
- C.  $a = 4$
- D.  $a = 16$

2. What is the value of  $n$  in the following equation?

$$1 = 7 - 3n$$

- A.  $-2$
- B.  $2$
- C.  $\frac{8}{3}$
- D.  $10$

3. Find the value of  $x$ .

$$7(x - 2) = 28$$

- A.  $4$
- B.  $6$
- C.  $8$
- D.  $9$

4. Solve:  $6n - 3 = 8n + 7$

- A.  $n = -5$
- B.  $n = -2$
- C.  $n = 2$
- D.  $n = 5$

5. Solve for  $y$ .

$$6y + 2(y + 5) = 12$$

- A.  $\frac{1}{4}$
- B.  $\frac{1}{3}$
- C.  $\frac{7}{8}$
- D.  $2\frac{3}{4}$

6. Which number property justifies this statement?  
 $(7 + d) + 10 = 7 + (d + 10)$

- A. associative property of addition
- B. commutative property of addition
- C. distributive property
- D. identity property of addition

7. Which of the following is equivalent to  $2(a - 6) = 5$ ?

- A.  $2a - 6 = 5$
- B.  $2a - 12 = 5$
- C.  $a - 4 = 5$
- D.  $a - 8 = 5$

8. What two properties are used in the following equation?

$$5(x)y = x(5y)$$

- A. associative and commutative
- B. distributive and commutative
- C. associative and distributive
- D. commutative and inverse

9. Simplify the following inequality.

$$9 + 5(a - 1) > 6 - (a + 2)$$

- A.  $5a - 9 > 4 - a$
- B.  $5a + 4 > 4 - a$
- C.  $14a - 9 > 8 - a$
- D.  $14a - 1 > 8 - a$

10. Which of the expressions below is equivalent to  $9(x + 2) + 2(x + 4)$ ?

- A.  $11x + 22$
- B.  $11x + 26$
- C.  $18x + 26$
- D.  $18x + 40$

**Stop! You have finished this exam.**