

**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.  $a = 16$

**Answer Choice Rationale**

- A. No rationale available
- B. No rationale available
- C. Correct
- D. No rationale available

ItemID A2KC.1087196  
 Correct C  
 Standard(s) MA.9-12.MA.912.A.3.1

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

$$1 = 7 - 3n$$

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

**Answer Choice Rationale**

- A. No rationale available
- B. Correct
- C. No rationale available
- D. No rationale available

ItemID A2KC.1087193  
 Correct B  
 Standard(s) MA.9-12.MA.912.A.3.1

3. Find the value of  $x$ .

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

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

**Answer Choice Rationale**

- A. No rationale available
- B. Correct
- C. No rationale available
- D. No rationale available

ItemID A2KC.1112565  
 Correct B  
 Standard(s) MA.9-12.MA.912.A.3.1

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

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

**Answer Choice Rationale**

- A. Correct
- B. No rationale available
- C. No rationale available
- D. No rationale available

ItemID A2KC.1136951  
 Correct A  
 Standard(s) MA.9-12.MA.912.A.3.1

Go on to the next page »

5. Solve for  $y$ .

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

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

**Answer Choice Rationale**

- A. Correct
- B. No rationale available
- C. No rationale available
- D. No rationale available

ItemID A2KC.1086883  
 Correct A  
 Standard(s) MA.9-12.MA.912.A.3.1

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

**Answer Choice Rationale**

- A. Correct
- B. No rationale available
- C. No rationale available
- D. No rationale available

ItemID A2KC.1143719  
 Correct A  
 Standard(s) MA.9-12.MA.912.A.3.2

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.  $a - 8 = 5$

**Answer Choice Rationale**

- A. No rationale available
- B. Correct
- C. No rationale available
- D. No rationale available

ItemID A2KC.1087233  
 Correct B  
 Standard(s) MA.9-12.MA.912.A.3.2

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

**Answer Choice Rationale**

- A. Correct
- B. No rationale available
- C. No rationale available
- D. No rationale available

ItemID A2KC.1106808  
 Correct A  
 Standard(s) MA.9-12.MA.912.A.3.2

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.  $14a - 1 > 8 - a$

**Answer Choice Rationale**

- A. No rationale available
- B. Correct
- C. No rationale available
- D. No rationale available

ItemID A2KC.1087279  
 Correct B  
 Standard(s) MA.9-12.MA.912.A.3.2

Go on to the next page »

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.  $18x + 40$

**Answer Choice Rationale**

- A. No rationale available
- B. Correct
- C. No rationale available
- D. No rationale available

<p>ItemID A2KC.1112702 Correct B Standard(s) MA.9-12.MA.912.A.3.2</p>
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