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Algebra 1 Preparation Manual

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Algebra I STAAR – EOC

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STAAREOCA Algebra 1 Practice Exam

Number & Algebraic Methods

Properties of Numbers, Algebraic Manipulation, and Expressions

Directions: Read each question carefully and choose the best answer. For multiple-choice questions, select the correct answer choice. Show all work for open-response questions.

Questions

1.

Which expression is equivalent to $3(2x - 5) + 4x$

- A. $10x - 15$
- C. $10x - 5$
- B. $6x - 1$



2.

Simplify: $5a - 3(2a - 7)$

- A. $-a + 21$
- B. $11a - 21$
- C. $-a - 21$
- D. $a + 21$



3.

Which property is illustrated by the statement below?

$$4(x + y) = 4x + 4y$$

- A. Associative Property
B. Distributive Property
C. Commutative Property
D. Identity Property



4.

Simplify: $5x + 3y$

$$\frac{15x + 9y}{3}$$

- A. $3x$
B. $12xy$
C. $3xy$
D. $6x$



5.

A student claims that $2(x + 5) = 2x + 5$
Which statement best explains the error?

- A. The distributive property was applied incorrectly.
B. The commutative property was used incorrectly.
C. The variable should be squared.
D. The coefficients should be added first.



6.

Which expression is equivalent to $7m^2n^3 \cdot 2mn$?

- A. $14m^3n^4$
B. $9m^2n^3$
C. $14m^2n^3$
D. $14mn$



7.

Simplify: $(3x^2)(2x^3)$

A. $5x^5$

B. $6x^6$

C. $6x^5$

D. $5x^6$



8.

Which expression represents the phrase:

"5 less than twice a number"

A. $2x + 5$ B. $5 - 2x$ C. $2x - 5$ D. $5x - 2$



9.

Simplify: $4(2x - 3) - 5(x + 1)$

A. $3x - 17$

B. $13x - 7$

C. $3x + 17$

D. $8x - 8$



10.

Which value of x makes the expression $3x + 7$

equal to 25?

A. 4

B. 6

C. 8

D. 10



11.

Simplify: $\frac{24a^3b^2}{8ab}$

- A. $3a^2b$
- C. $3ab$

- B. $16a^2b$
- D. $24a^2b^2$



12.

Which property is shown below? $(x + y) + z = x + (y + z)$

- A. Distributive Property
- B. Associative Property
- C. Commutative Property
- D. Reflexive Property



13.

Simplify: $(2x - 4) + (5x + 9)$

- A. $7x + 13$
- C. $7x + 5$

- B. $3x + 5$
- D. $10x + 5$



14.

A rectangle has a length of $x + 5$ units and a width of $x - 2$ units. Which expression represents the perimeter?

- A. $2x + 3$
- C. $2x + 6$

- B. $4x + 6$
- D. $x^2 + 3x - 10$



15.

Simplify: $(4y^2)^3$

A. $12y^5$

C. $16y^6$

B. $64y^6$

D. $64y^5$



16.

Which expression is equivalent to $9x - 2(3x + 4)$

A. $3x - 8$

C. $3x + 8$

B. $15x + 8$

D. $6x - 8$



17.

Simplify: $(x^3)^2$

A. x^5

C. $2x^3$

B. x^6

D. x^9

