

SPARK Hybrid Education Center

UNIT TEST - November - Variables & Algebraic Expressions

Lower Level

Name: _____
Total: 16 questions. Show all work where indicated.

Date: _____ Period: _____

Section 1: Multiple Choice

1. Evaluate $3x + 5$ when $x = 4$: A) 12 B) 15 C) 17 D) 20
2. Simplify: $4a + 3b + 2a - b$: A) $6a+2b$ B) $9ab$ C) $5a+4b$ D) $7a$
3. Apply distributive property: $3(x+7)$: A) $3x+7$ B) $3x+21$ C) $x+21$ D) $10x$
4. The coefficient in $6y$ is: A) y B) 6 C) $6y$ D) 0
5. Which is NOT a like term with $5x^2$? A) $3x^2$ B) $-x^2$ C) $5x$ D) $7x^2$
6. Translate: 'seven less than twice n ': A) $7-2n$ B) $2n-7$ C) $2(n-7)$ D) $7+2n$

Section 2: Matching

7. ____ variable A) a number with no variable
8. ____ constant B) a letter representing unknown
9. ____ coefficient C) number multiplied by variable
10. ____ like terms D) terms with same variable and exponent
11. ____ expression E) combination of variables, numbers, operations

Section 3: Show Your Work

12. Simplify: $5x + 3y - 2x + y + 8$. Identify and combine like terms.
13. Use distributive property: $4(2a - 5) + 3a$. Show each step.
14. Evaluate: $2m^2 - 3m + 1$ when $m = 3$. Show substitution.

Section 4: Word Problems

15. Write an expression for the total cost of buying n notebooks at \$2.50 each and 2 pens at \$1.25 each.
16. A rectangle has length $(3x + 2)$ cm and width 5 cm. Write and simplify an expression for the perimeter.

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Section 1: Multiple Choice

1. C) 17
2. A) $6a+2b$
3. B) $3x+21$
4. B) 6
5. C) $5x$
6. B) $2n-7$

Section 2: Matching

7. B
8. A
9. C
10. D
11. E

Section 3: Show Your Work

12. $3x + 4y + 8$
13. $8a - 20 + 3a = 11a - 20$
14. $2(9) - 9 + 1 = 10$

Section 4: Word Problems

15. $2.5n + 2.50$
16. Perimeter = $2(3x+2) + 2(5) = 6x + 4 + 10 = 6x + 14$