

Simplify Expressions
Distribution then Combine Like Terms
Lecture 014 Algebra WS #3 v02

Name _____

Date _____

$$5) -4(2x + 9y) + 2(6x + 10y)$$

Simplify the expression, and combine like terms.

$$1) -(8z - 2) + 6(5z + 8)$$

$$6) -7(9x + 3y) + 7(3x + 5y)$$

$$2) -(8x - 2) + 7(10x + 5)$$

$$7) -4(8xy + 6y^2) + 6y(5x + 5y)$$

$$3) -(3x - 4) + 6(4x + 8)$$

$$8) -7(2xy + 6y^2) + 10y(10x + 8y)$$

$$4) -6(3x + 7y) + 2(7x + 8y)$$

$$9) -10(4xy + 2y^2) + 2y(10x + 5y)$$

$$14) 8(4x^2 + 9y) - (8x^2 - 6y)$$

$$10) 5(8a + 9b) - (7a - 3b)$$

$$15) 3(9a^2 + 7ab) - a(7a - 3b)$$

$$11) 6(3a + 7b) - (10a - 5b)$$

$$16) 2(2a^2 + 6ab) - a(8a - 5b)$$

$$12) 3(3x^2 + 6y) - (5x^2 - 3y)$$

$$17) 2(3a^2 + 6ab) - a(9a - 2b)$$

$$13) 2(6x^2 + 5y) - (9x^2 - 4y)$$

$$18) 11n(m + 6n) + 9(8mn + 5n^2)$$

19) $5n(m + 2n) + 8(12mn + 11n^2)$

24) A triangle has sides of length $14a + 3$ inches, $7a + 6b$ inches, and $13b + 8$ inches. What is the perimeter of the triangle?

20) $2n(m + 12n) + 8(10mn + 11n^2)$

25) Find the perimeter of a triangle whose sides are of lengths $7x$, $7x - 2$, and x .

21) $4n(m + 10n) + 8(12mn + 5n^2)$

26) Find the perimeter of a square with sides of length $x - 4$.

22) $5(2 - x) - 6(7 - 4x)$

27) Find the perimeter of a square with sides of length $x + 5$.

Solve the problem by combining like terms.

23) The value of 8 dimes is $10 \cdot 8 = 80$ cents.

Likewise, the value of x dimes is $10x$ cents. If George finds $7x - 2$ nickels, $4x$ dimes, and x quarters in his change jar, express the total value of change in cents as an algebraic expression.

28) A rectangle has sides of length $8x + 3$ meters and $4x - 5$ meters. What is the perimeter of the rectangle?

Answer Key

Testname: 015ALGEBRAWS03V02

- 1) $22z + 50$
- 2) $62x + 37$
- 3) $21x + 52$
- 4) $-4x - 26y$
- 5) $4x - 16y$
- 6) $-42x + 14y$
- 7) $-2xy + 6y^2$
- 8) $86xy + 38y^2$
- 9) $-20xy - 10y^2$
- 10) $33a + 48b$
- 11) $8a + 47b$
- 12) $4x^2 + 21y$
- 13) $3x^2 + 14y$
- 14) $24x^2 + 78y$
- 15) $20a^2 + 24ab$
- 16) $-4a^2 + 17ab$
- 17) $-3a^2 + 14ab$
- 18) $83mn + 111n^2$
- 19) $101mn + 98n^2$
- 20) $82mn + 112n^2$
- 21) $100mn + 80n^2$
- 22) $19x - 32$
- 23) $100x - 10$ cents
- 24) $21a + 19b + 11$ inches
- 25) $15x - 2$
- 26) $4x - 16$
- 27) $4x + 20$
- 28) $24x - 4$ meters