

Simplify Expressions
Distribution then Combine Like Terms
Lecture 014 Algebra WS #3 v01

Name _____

Date _____

$$5) -6(4x + 9y) + 2(3x + 4y)$$

Simplify the expression, and combine like terms.

$$1) -(9w - 6) + 10(2w + 8)$$

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

$$2) -(6w - 4) + 4(8w + 5)$$

$$7) -8(3xy + 5y^2) + 10y(10x + 8y)$$

$$3) -(9y - 5) + 2(3y + 9)$$

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

$$4) -4(7x + 10y) + 4(5x + 4y)$$

$$9) -7(4xy + 6y^2) + 10y(2x + 8y)$$

$$14) 3(10x^2 + 9y) - (3x^2 - 4y)$$

$$10) 3(10a + 7b) - (2a - 6b)$$

$$15) 10(5a^2 + 6ab) - a(7a - 2b)$$

$$11) 5(4a + 6b) - (6a - 3b)$$

$$16) 4(9a^2 + 4ab) - a(8a - 3b)$$

$$12) 4(4x^2 + 5y) - (4x^2 - 2y)$$

$$17) 3(6a^2 + 4ab) - a(9a - 2b)$$

$$13) 6(7x^2 + 8y) - (8x^2 - 3y)$$

$$18) 12n(m + 10n) + 7(11mn + 5n^2)$$

19) $9n(m + 4n) + 12(11mn + 7n^2)$

24) A triangle has sides of length $17a + 12$ inches, $2a + 15b$ inches, and $7b + 11$ inches. What is the perimeter of the triangle?

20) $11n(m + 7n) + 5(6mn + 4n^2)$

25) Find the perimeter of a triangle whose sides are of lengths $7x$, $7x + 3$, and x .

21) $5n(m + 11n) + 2(10mn + 8n^2)$

26) Find the perimeter of a square with sides of length $x + 7$.

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

27) Find the perimeter of a square with sides of length $x + 1$.

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 $2x - 2$ nickels, $5x$ 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: 015ALGEBRAWS03V01

- 1) $11w + 86$
- 2) $26w + 24$
- 3) $-3y + 23$
- 4) $-8x - 24y$
- 5) $-18x - 46y$
- 6) $8x + 32y$
- 7) $76xy + 40y^2$
- 8) $-13xy + 12y^2$
- 9) $-8xy + 38y^2$
- 10) $28a + 27b$
- 11) $14a + 33b$
- 12) $12x^2 + 22y$
- 13) $34x^2 + 51y$
- 14) $27x^2 + 31y$
- 15) $43a^2 + 62ab$
- 16) $28a^2 + 19ab$
- 17) $9a^2 + 14ab$
- 18) $89mn + 155n^2$
- 19) $141mn + 120n^2$
- 20) $41mn + 97n^2$
- 21) $25mn + 71n^2$
- 22) $19x - 32$
- 23) $85x - 10$ cents
- 24) $19a + 22b + 23$ inches
- 25) $15x + 3$
- 26) $4x + 28$
- 27) $4x + 4$
- 28) $24x - 4$ meters