

Distributive Property  
Lecture 014 Algebra WS #2 v02

Name \_\_\_\_\_

Date \_\_\_\_\_

5)  $5(-8a - 2b)$

**Use the distributive property to simplify.**

1)  $-(-5m + 8n - 5p)$

6)  $-12(-3a + 3b)$

2)  $-(-5m + 9n - 6p)$

7)  $9(8a + 4b + 7)$

3)  $4(x + 3y)$

8)  $5(-4a - 3b - 10)$

4)  $6(x + 2y)$

9)  $4x(x - 3y - 5z)$

$$10) -4x(x + 7y + 2z)$$

$$15) (5x - 5y + 3)(4xy)$$

$$11) (3x - 6y - 5)(4x)$$

$$16) (-3x + 3y + 3)(-2xy)$$

$$12) (4x - 2y - 3)(3x)$$

$$17) 1.7(1.8x^2 + 2.72x + 1.36)$$

$$13) \frac{2}{5}(20x^2 + 15x - 10)$$

$$18) 1.9(1.5x^2 + 1.14x + 0.684)$$

$$14) \frac{3}{5}(10x^2 - 20x - 5)$$

$$19) \frac{y}{4}(9y - x + 16)$$

20)  $\frac{y}{3}(5y - x + 12)$

21)  $\frac{y}{4}(7y - x - 8)$

24) The quad at State University is  $2x$  feet wide. Initially, it was 1300 feet long. However, due to the construction of a new science building, the original length was decreased by  $5y$  feet. Use the distributive property to find an expression for the area of the new quad.

25) The price of a laptop computer was  $3y$ . During a sale, the price was reduced by \$50. The store sold  $9x$  computers during the first week of the sale. Write an expression with parentheses to represent the value of the computers sold during the first week. Then use the distributive property to write the expression without parentheses.

**Solve the problem.**

22) A living room is 16 feet wide. The carpeted portion of the room is  $9x$  feet long and the adjacent tiled portion of the room is  $8y$  feet long. Use the distributive property to find an expression for the total area of the living room.

23) A living room is 18 feet wide. The carpeted portion of the room is  $7x$  feet long and the adjacent tiled portion of the room is  $3y$  feet long. Use the distributive property to find an expression for the total area of the living room.

26) Sara is in charge of painting a mural on the side of a building. The wall is 32 meters long. The wall is  $4x$  meters high up to the window ledge and it is  $6y$  meters from the window ledge to the top. Write an expression with parentheses for the area of the wall. Then use the distributive property to write the expression without parentheses.

## Answer Key

Testname: 014ALGEBRAWS#02V02

- 1)  $5m - 8n + 5p$
- 2)  $5m - 9n + 6p$
- 3)  $4x + 12y$
- 4)  $6x + 12y$
- 5)  $-40a - 10b$
- 6)  $36a - 36b$
- 7)  $72a + 36b + 63$
- 8)  $-20a - 15b - 50$
- 9)  $4x^2 - 12xy - 20xz$
- 10)  $-4x^2 - 28xy - 8xz$
- 11)  $12x^2 - 24xy - 20x$
- 12)  $12x^2 - 6xy - 9x$
- 13)  $8x^2 + 6x - 4$
- 14)  $6x^2 - 12x - 3$
- 15)  $20x^2y - 20xy^2 + 12xy$
- 16)  $6x^2y - 6xy^2 - 6xy$
- 17)  $3.06x^2 + 4.624x + 2.312$
- 18)  $2.85x^2 + 2.166x + 1.2996$
- 19)  $\frac{9}{4}y^2 - \frac{xy}{4} + 4y$
- 20)  $\frac{5}{3}y^2 - \frac{xy}{3} + 4y$
- 21)  $\frac{7}{4}y^2 - \frac{xy}{4} - 2y$
- 22)  $144x + 128y$  square feet
- 23)  $126x + 54y$  square feet
- 24)  $2600x - 10xy$  square feet
- 25)  $9x(3y - 50) = 27xy - 450x$  dollars
- 26)  $32(4x + 6y) = 128x + 192y$  square meters