

# Distributive Property and Combining Like Terms

$$a(b+c) = ab+ac$$

Distributive Property

LIKE TERMS					
SAME VARIABLES to the SAME POWER					
3a	12a	54a	5x	12x	0.9x
3xy <sup>2</sup>	9xy <sup>2</sup>	12xy <sup>2</sup>			
5a+2x+8ab+9b+12ab+7b+3x+10a+4ab					
↑	↑	↑	↑	↑	↑

Combining Like Terms

Steps to Distributing with Combining Like Terms

1. Distribute
2. Combine like terms (terms with the same variables and raised to the same power)

$$1. -n + 4(n+1)$$

$$-n + 4n + 4$$

$$\underline{3n + 4}$$

$$2. -2 + 5(4+3r)$$

$$-2 + 20 + 15r$$

$$\underline{18 + 15r}$$

$$15r + 18$$

$$3. -3(a+1) + 6$$

$$-3a - 3 + 6$$

$$\underline{-3a + 3}$$

$$4. 6(-3x-5) - 9x$$

$$-18x - 30 - 9x$$

$$\underline{-27x - 30}$$

$$5) 2y + 5(3y-8)$$

$$2y + 15y - 40$$

$$\underline{17y - 40}$$

$$7) -7(2c-2) - 9$$

$$-14c + 14 - 9$$

$$\underline{-14c + 5}$$

$$6) 1 - (-3d - 2y) + 12y$$

$$1 + 3d + 2y + 12y$$

$$\underline{1 + 3d + 14y}$$

$$3d + 14y + 1$$

$$8) 6(2x-8) - x$$

$$12x - 48 - x$$

$$\underline{11x - 48}$$

$$9. 3 - 5(9x + 10) - 5 + 15x$$

$$3 - 45x - 50 - 5 + 15x$$

$$\underline{-30x - 52}$$

$$10. -(n+9) + 4 + 7n$$

$$-n - 9 + 4 + 7n$$

$$\underline{6n - 5}$$

$$11. -2(x+9) - 7(5x-4)$$

$$-2x - 18 - 35x + 28$$

$$\underline{-37x + 10}$$

$$12. 4(x-10) - (x-13)$$

$$4x - 40 - x + 13$$

$$\underline{3x - 27}$$

Warm up 9/18

Simplify:

$$7(y+3) - 2y$$

$$(5y+21)$$

$$7y + 21 - 2y$$