

The commutative property states that two numbers can be added or multiplied in any order without changing the value.

Like terms must have the same variables.

To add *like terms*, reorder using the commutative property and add their *coefficients*.

Like Terms $\rightarrow 4x, -1.5x, \frac{1}{3}x$

Not Like Terms $\rightarrow 4x, 2xy, -y$

Example: $x+2y+3x+5y$
 $x+3x+2y+5y$
 $4x+7y$

(Reorder using the Commutative Property)
(Add Coefficients)

Simplify by combining the *like terms*. Show all steps and circle your final answer.

1. $\underline{1x} + \underline{3} + \underline{3x} + \underline{10}$

$4x + 13$

2. $14 - y + 7y - 10$

$\underline{14} + \underline{(-1y)} + \underline{7y} + \underline{(-10)}$
 $6y + 4$

3. $5x - 12x + 5x$

$\underline{5x} + \underline{(-12x)} + \underline{5x}$

$10x + \underline{(-12x)}$

$-2x$

4. $4 + n - 2.8n + 7.8$

$4 + \underline{n} + \underline{(-2.8n)} + 7.8$

$-1.8n + 11.8$

5. $-5x - 12 + 5x$

$\underline{-5x} + \underline{(-12)} + \underline{5x}$

$-5x + 5x = 0$

-12

6. $5y - x - 9y + 5x$

$\underline{5y} + \underline{(-1x)} + \underline{(-9y)} + \underline{5x}$

$4x + (-4y)$

$$-8(-3)(2)$$

7. $-8(-3x)(2)$

$$\boxed{48x}$$

$$\frac{2}{3} \cdot \frac{24}{1} \cdot (-5)$$

8. $\frac{2}{3}(24y)(-5)$

$$\boxed{-80y}$$

9. $-3(-3x)(2) + 5(2x)(-6)$

$$\underline{18x} + \underline{(-60x)}$$

$$\boxed{-42x}$$

10. $2.5(-8) + 3(-6x) - (-10)$

$$\underline{-20} + \underline{(-18x)} + \underline{10}$$

$$\boxed{-18x + (-10)}$$

11. $5(-10) - 4(-8x) - 5(3x) + 8(-6)$

$$5(-10) + (-4)(-8x) + (-5)(3x) + 8(-6)$$

$$\underline{-50} + \underline{32x} + \underline{(-15x)} + \underline{(-48)}$$

$$\boxed{17x + (-98)}$$

12. $-12 + 3x - (-15) - 3(-4x) + (-3x)(5)$

$$-12 + 3x + 15 + (-3)(-4x) + (-3x)(5)$$

$$\underline{-12} + \underline{3x} + \underline{15} + \underline{12x} + \underline{(-15x)}$$

$$\boxed{3}$$

Combining Like Terms "MATH LIB"!

Directions: Write down each expression, then simplify by combining like terms. Identify your answer and fill in the blanks at the bottom to complete the story.

1) $18x + 5 - 7x - 9 = 11x - 4$

2) $5m - 17 - 5 + 2m = 7m - 22$

3) $20 + (-10y) + (-7y) + 9 = -17y + 29$

4) $-15k + (-1) + 12 + 2k = -13k + 11$

5) $12x + (-13) + (-x) + (-9) + 10x = 21x + (-22)$

6) $10 + (-7w) + (-13) + (-7w) + 15 = -14w + 12$

7) $10a + (-7b) + 11 + 8a + (-b) + (-12) = 18a + (-8b) + (-1)$

8) $-c + 5d + 7c + (-11d) + d + (-3c) = 3c + (-5d)$

9) $7a^2 + 10a + (-3a) + (-2a^2) = 5a^2 + 7a$

10) $x^2 + (-3xy) + (-5xy) + (-7y^2) + 4x^2 + 8y^2 = 5x^2 + (-8xy) + y^2$

.....
 (1) Mrs. Tassmer was (2) excited

to be (3) flying a kite with

(4) Lady Gaga on (5) Friday night at

(6) Starbucks in (7) a police car wearing

(8) gorilla costumes while (9) wrestling a bear because they

wanted (10) to impress everyone!

Simplifying Expressions Warm-Up #1

Use the commutative and distributive properties to rewrite each expression.
Show all steps and circle your final answer in standard form.

$$1. \quad \underline{2x+5} + \underline{3x-8}$$

$$\underline{2x} + \underline{5} + \underline{3x} + \underline{(-8)}$$

$$\boxed{5x + (-3)}$$

$$2. \quad 2(-3x) + 4(8) + 5(2x) - (-2)$$

$$\underline{-6x} + \underline{(-32)} + \underline{10x} + \underline{2}$$

$$\boxed{4x + (-30)}$$

$$3. \quad 2(x+1)$$

$$2(x) + 2(1)$$

$$\boxed{2x + 2}$$

$$4. \quad \frac{6x+12}{-3}$$

$$\frac{6x}{-3} + \frac{12}{-3}$$

$$\boxed{-2x + (-4)}$$

$$5. \quad -6(2x-3)$$

$$= -6(2x + (-3))$$

$$-6(2x) + (-6)(-3)$$

$$\boxed{-12x + 18}$$

$$6. \quad -3x + 7(2+3x)$$

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

$$\underline{-3x} + 14 + \underline{21x}$$

$$\boxed{18x + 14}$$

6th grade Fast Math
Simplifying Expressions I.P.

Name: Key

Date: _____ Pd: _____

Use the commutative and distributive properties to rewrite each expression.
Show all steps and circle your final answer in standard form.

1. $10 - 7m + (-15) + 10m$

$$\underline{10} + \underline{(-7m)} + \underline{(-15)} + \underline{10m}$$

$$\boxed{3m + (-5)}$$

2. $-x - 25 - (-5x) + (-7) - (-11) + (-8x)$

$$\underline{-x} + \underline{(-25)} + \underline{5x} + \underline{(-7)} + \underline{11} + \underline{(-8x)}$$

$$\boxed{-4x + (-21)}$$

3. $2(3m+2) - 4(2m-12)$
 $2(3m) + 2(2) + (-4)(2m) + (-4)(-12)$
 $\underline{6m} + \underline{4} + \underline{(-8m)} + \underline{48}$

$$\boxed{-2m + 52}$$

4. $\frac{1}{3}(-6x+18)$

$$\frac{1}{3}(-6x) + \frac{1}{3}(18)$$

$$\boxed{-2x + 6}$$

5. $-6(13-2k) + 4(k-2)$

$$\underline{-6(13)} + \underline{(-6)(-2k)} + \underline{4(k)} + \underline{4(-2)}$$

$$\underline{-78} + \underline{12k} + \underline{4k} + \underline{(-8)}$$

$$\boxed{16k + (-86)}$$

6. $\frac{24-16x}{-8}$

$$\frac{24}{-8} + \frac{-16x}{-8}$$

$$\underline{-3} + \underline{2x}$$

$$\boxed{2x + (-3)}$$

7. $\frac{2}{5}(10y-5) - 6$

$$\frac{2}{5}(10y) + \frac{2}{5}(-5) + \underline{(-6)}$$

$$\underline{4y} + \underline{-2} + \underline{(-6)}$$

$$\boxed{4y + (-8)}$$

8. $(8c+14)(-1.5)$

$$\underline{-1.5(8c)} + \underline{-1.5(-14)}$$

$$\boxed{-12c + 21}$$