W-PA Pre-Algebra Week 8 10/25

$$25 + 37 + 75 = \underbrace{25 + 75}_{100} + 37$$

$$100 + 37 = \boxed{137}$$

Commutative Property

When adding or multiply, order does <u>not</u> matter.

$$25 * 13 * 4 = \underbrace{25 * 4}_{100} * 13$$

$$100 * 13 = \boxed{1300}$$

$$\boxed{\begin{aligned} a+b &= b+a \\ a*b &= b*a \end{aligned}}$$

$$13 + (87 + 26) = (13 + 87) + 26$$

$$100 + 26 = \boxed{126}$$

$$2 * (50 * 16) = (\underbrace{2 * 50}_{100}) * 16$$

$$100 * 16 = \boxed{1600}$$

Associative Property

Change the parentheses when adding or multiplying <u>only</u>.

$$a + (b + c) = (a + b) + c \qquad a * (b * c) = (a * b) * c$$

Identity Property

$8 + 0 = 8$

$8 * 1 = 8$

$$\boxed{\begin{aligned} a + 0 &= a \\ a * 1 &= a \end{aligned}}$$

$a + 4 = 9$

$\quad -4 \quad -4$

$a + 0 = 5$

$a = 5$

Inverse Property

$8 + (-8) = 0$

$3 + (-3) = 0$

Add its opposite $= 0$

$$\boxed{a + (-a) = 0}$$

flip

$\frac{8}{1} * \frac{1}{8} = \frac{8}{8} = 1$

inverse

Multiply by inverse

$\frac{3}{4} * \frac{4}{3} = 1$

$$\boxed{a * \frac{1}{a} = 1}$$ $a \neq 0$

1.) $14 + (m + n) = (14 + m) + n$

Associative (A)

2.) $p + 0 = p$

Identity (ID)

3.) $19 * 11 = 11 * 19$

Commutative (C)

4.) $k * \frac{1}{k} = 1$

Inverse (IV)

5.) $6(xy) = (6x)y$

Associative

6.) $n = 1 * n$

Identity (ID)

Commutative (C)

Associative (A)

Identity (ID)

Inverse (IV)

$$4(8t + 12s + 6r)$$

$$(8t + 12s + 6r) + (8t + 12s + 6r) + (8t + 12s + 6r) + (8t + 12s + 6r)$$

$$8t + 8t + 8t + 8t \quad 12s + 12s + 12s + 12s \quad 6r + 6r + 6r + 6r$$

$$\boxed{32t + 48s + 24r}$$

$$4(8t + 12s + 6r)$$

Distributive Property

$$4(8t) + 4(12s) + 4(6r)$$

$$\boxed{32t + 48s + 24r}$$

$$8(j - 2k + m) = \boxed{8j - 16k + 8m}$$

$$s(-6 + t) = \boxed{-6s + st}$$

$$-1(3a + 4b) = \boxed{-3a - 4b}$$

$$(3a-8)5 = 5(3a-8)$$

$$\boxed{15a-40}$$

1.) $6(3x-8) = \boxed{18x-48}$

2.) $-2(4p+12) = \boxed{-8p-24}$

$$\boxed{12a} + \boxed{4} + \boxed{6a} + \boxed{8}$$

"Simplify"

"Combine like terms"

$12a+6a=18a$ $\quad 4+8=12$ $\quad = \boxed{18a+12}$

$12\square + \$4 + 6\square + \$8 = 18\square + \$12$

$18\square$ $\quad \$12$

$$5(2y+1)-7y = 10y+5-7y$$

$10y-7y=3y$

$$\boxed{3y+5}$$

1.) $3(a+5)+9$

$3a+15+9$

$\boxed{3a+24}$

2.) $8c+5(c-3)$

$8c+5c-15$

$\boxed{13c-15}$

3.) $-3(1-2n)+2(n+4)$

$-3+6n+2n+8$

$8n+5$

$\boxed{8n+5}$