Monday, Sept 28th

Solving Equations

ex #1

$$5x - \cancel{9} = 8$$
$$+9 \qquad +9$$
$$\frac{5x}{5} = \frac{17}{5}$$
$$x = \frac{17}{5}$$

ex #2

$$3x + \cancel{2} = 14$$
$$-2 \qquad -2$$
$$\frac{3x}{3} = \frac{12}{3}$$
$$x = 4$$

ex#3

$$\frac{x}{2} - \cancel{8} = 16 \quad +8 \quad +8$$

$$\frac{x}{2} = \frac{24}{1}$$

$$(x)(1) = (2)(24)$$

$$x = 48$$

ex#4

$$\frac{2x}{7} - \cancel{5} = 15 \quad +5 \quad +5$$

$$\frac{2x}{7} = \frac{20}{1}$$

$$(2x)(1) = (7)(20)$$

$$\frac{2x}{2} = \frac{140}{2}$$

$$x = 70$$

Step#1 – Always start with adding or subtraction

Step#2 – Division or cross mult

ex #5

$$3x + 8x = 44$$

$$\frac{11x}{11} = \frac{44}{11}$$

$$x = 4$$

ex #6

same

$$-2x - 8x = -100$$

$$-2x + -8x = -100$$

$$\frac{\cancel{-10x}}{\cancel{-10}} = \frac{-100}{-10}$$

$$x = 10$$

ex #7

$$3x^{-2x} = \cancel{2x}^{\cancel{-2x}} - 8$$

$$1x$$

$$\Downarrow$$

$$x = -8$$

ex #8

$$7x^{-2x} = 10 + \cancel{2x}^{\cancel{-2x}}$$

$$\frac{5x}{5} = \frac{10}{5}$$

$$x = 2$$

ex #9

$$9x^{+x} + 45 = \cancel{-1x}^{\cancel{+1x}^{+x}} + 135$$

$$9x + x + 45 = 135$$

$$10x + \cancel{45}^{-45} = 135^{-45}$$

$$\frac{10x}{10} = \frac{90}{10}$$

$$x = 9$$

Note $1x = x$

$-1x = -x$

Step #1 - Make sure that all the x's are on the same side, and the #'s are on the same side

Step #2 - isolate for x (↳ alone)

ex #10

$$\frac{5}{x} = \frac{2}{8}$$

$$(5)(8) = (2)(x)$$

$$40 = (2)(1x)$$

$$\frac{40}{2} = \frac{2x}{2}$$

$$20 = x$$

$$x = 20$$

ex #11

$$\frac{5}{2x} = \frac{2}{4}$$

$$(5)(4) = (2)(2x)$$

$$\frac{20}{4} = \frac{4x}{4}$$

$$5 = x$$

$$x = 5$$