

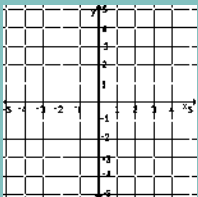
Algebraic Equations

SOLVING MULTI-STEP EQUATIONS

March 1, 2006

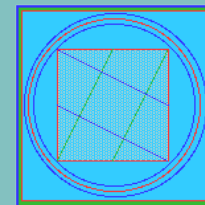
Mr. Galilei

Monessen High School



Algebraic Equations

Multiplication with Subtraction

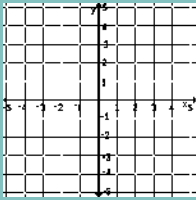


$$2x - 4 = 8$$

$$+4 \quad +4$$

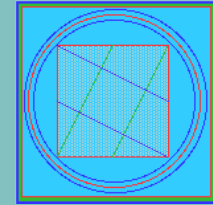
$$\frac{\cancel{2}x}{\cancel{2}} = \frac{12}{2}$$

$$x = 6$$



Algebraic Equations

Multiplication with Addition

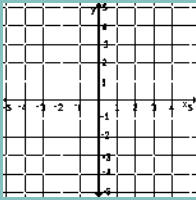


$$5x + 10 = 80$$

$$-10 \quad -10$$

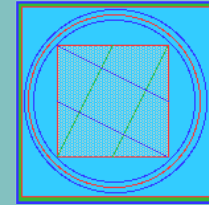
$$\frac{\cancel{5}x}{\cancel{5}} = \frac{70}{5}$$

$$x = 14$$



Algebraic Equations

Multiplication with Subtraction



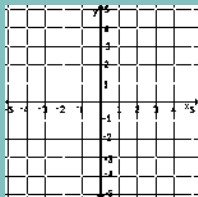
$$-3x - 4 = -82$$

$$+4 \quad +4$$

$$\underline{\cancel{-3}x} = \underline{-78}$$

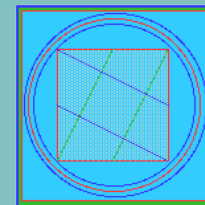
$$\cancel{-3} \quad -3$$

$$x = 26$$



Algebraic Equations

Multiplication with Addition



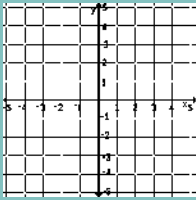
$$\frac{2}{3}x + 2 = 8$$

$$-2 \quad -2$$

$$\frac{\cancel{2}}{\cancel{2}} \cdot \frac{\cancel{2}}{\cancel{3}} x = 6 \cdot \frac{3}{2}$$

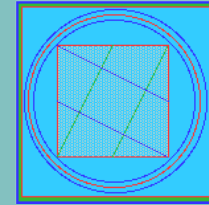
(HINT)
Reciprocal

$$x = 18/2 = 9$$



Algebraic Equations

Division with Addition

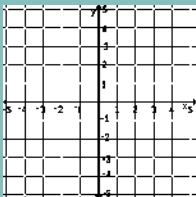


$$x/5 + 2 = 8$$

$$-2 \quad -2$$

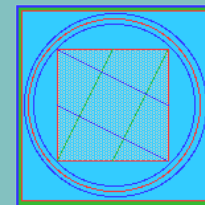
$$\cancel{(5)} \frac{x}{\cancel{5}} = 6 \quad (5)$$

$$x = 30$$



Algebraic Equations

C.L.T.



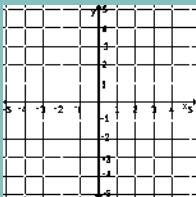
$$(4x + 6x) + 20 = 80$$

$$10x + 20 = 80$$

$$\underline{-20} \quad \underline{-20}$$

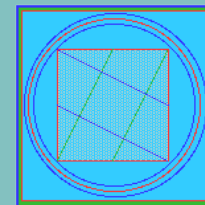
$$\frac{10x}{10} = \frac{60}{10}$$

$$x = 6$$



Algebraic Equations

C.L.T.



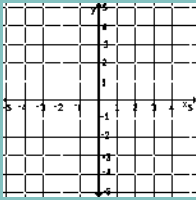
$$(3x + 2x) + (20 - 8) = 92$$

$$5x + 12 = 92$$

$$\underline{-12} \quad \underline{-12}$$

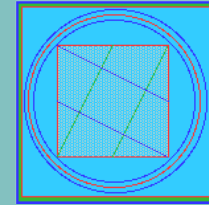
$$\frac{5x}{5} = \frac{80}{5}$$

$$x = 16$$



Algebraic Equations

C.L.T.



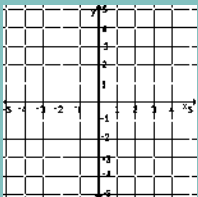
$$6x + 15 = 125 + 4x$$

$$(6x - 4x) + 12 = 122 + (4x - 4x)$$

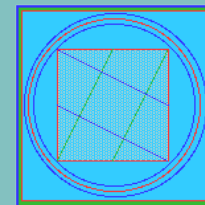
$$2x + 12 = 122$$
$$\quad -12 \quad -12$$

$$\frac{2x}{2} = \frac{110}{2}$$

$$x = 55$$



Algebraic Equations



Distributive Property

$$2(5x - 6) - 3x = 4(x + 12) - 9x$$

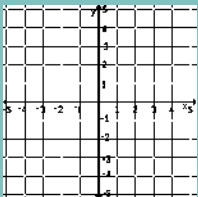
$$10x - 12 - 3x = 4x + 48 - 9x$$

$$(10x - 3x) - 12 = (4x - 9x) + 48$$

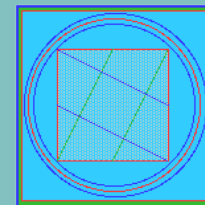
$$7x - 12 = -5x + 48$$


$$(7x + 5x) - 12 = 48$$

$$12x - 12 = 48$$



Algebraic Equations



Distributive Property

$$7x + 5x - 12 = 48$$

$$12x - 12 = 48$$

$$+12 \quad +12$$

$$\frac{\cancel{12}x}{\cancel{12}} = \frac{60}{12}$$

$$x = 5$$

THE END



■ Homework:

Study Review Sheet

Test Tomorrow!!

Use Worksheets & Notes to
review and practice for the
test.