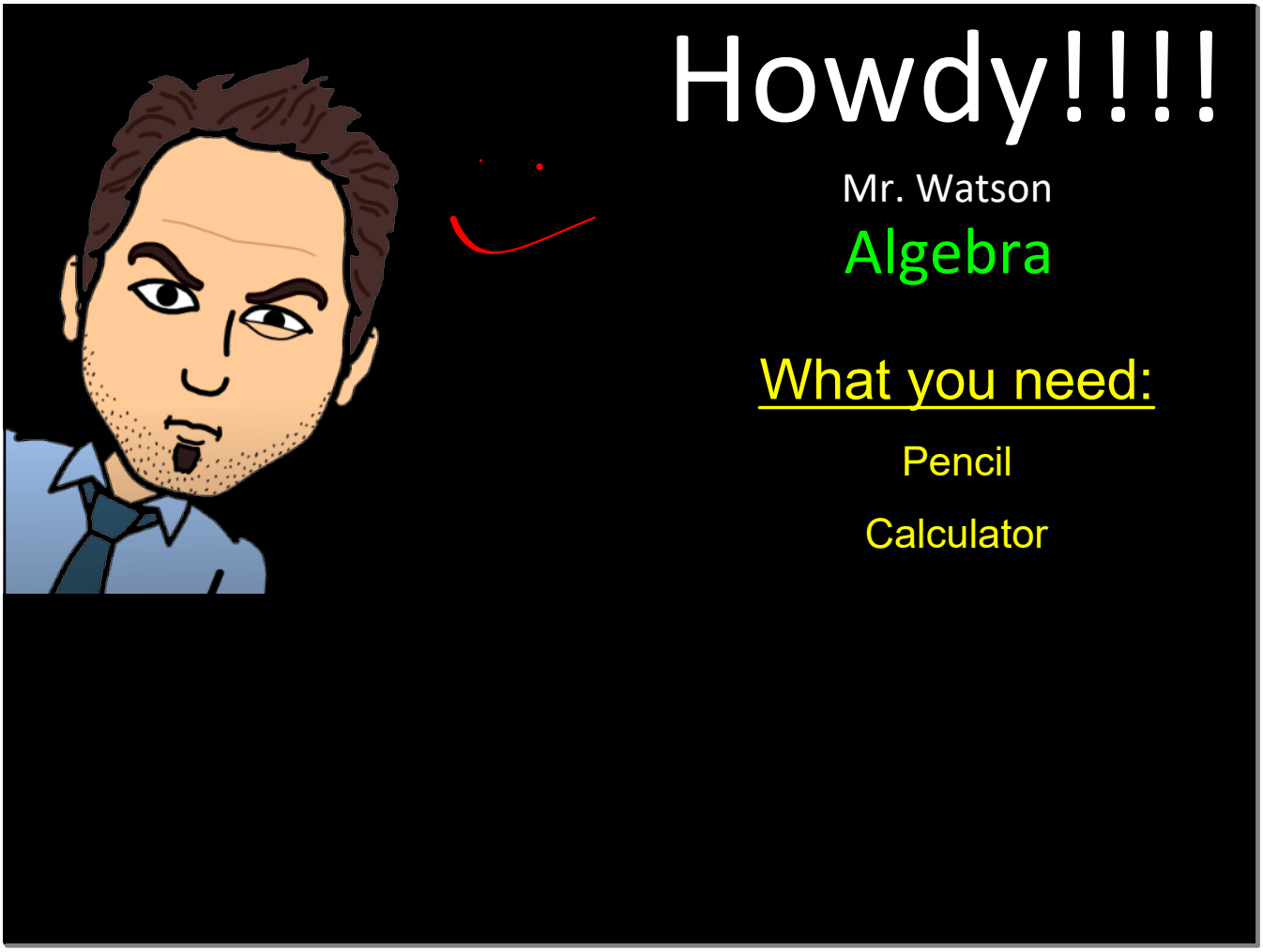
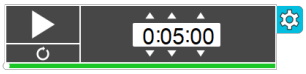


Jan 5-3:51 PM

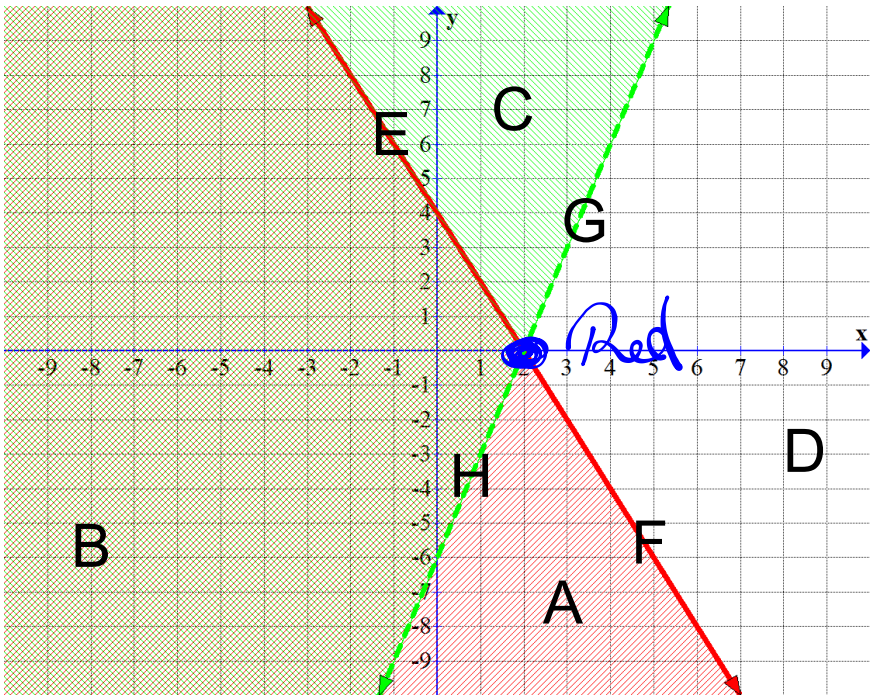
Let's investigate a solution to a system of inequalities.

Feb 2-9:19 AM

Which color is the solution? (B-both, N-neither, G-green, and R-red)



A Red
B Both
C Green
D None
E Both
F Red
G None
H Red



Feb 5-8:30 AM

Steps for Solving by Substitution:

1. Solve one of your equations for x or y.
2. Substitute "plug" that into the other equation.
3. Solve for the variable.
4. Substitute "plug" your answer into either equation.
5. Solve for the other variable.
6. Write as a coordinate (x, y), if possible.

Feb 9-9:07 AM

Solve the following by SUBSTITUTION

$x = -4$

$3x + 2y = 20$

$3(-4) + 2y = 20$

$-12 + 12 + 2y = 20 + 12$

$\frac{2y}{2} = \frac{32}{2}$

$y = 16$

$(-4, 16)$

$x = -4$

$-4 = -4$ ✓

$3x + 2y = 20$

$3(-4) + 2(16) = 20$

$-12 + 32 = 20$

$20 = 20$ ✓

Solve the following by SUBSTITUTION

$$3x+2y=-12$$

$$y=x-1$$

$(-2,-3)$ ✓

$3x + 2(x-1) = -12$

$3x + 2x - 2 = -12$

$5x - 2 = -12$

$+2 \quad +2$

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

$x = -2$

$y = x - 1$

$y = -2 - 1$

$y = -3$

$$3x+2y=-12$$

$$y=x-1$$

$3x + 2y = -12$

$3(-2) + 2(-3) = -12$ ✓

$-6 + -6 = -12$

$y = x - 1$

$-3 = -2 - 1$ ✓

Solve the following by SUBSTITUTION

$x = -5y + 4$

$3x + 15y = -1$

$3(-5y + 4) + 15y = -1$

$-15y + 12 + 15y = -1$

$12 = -1$

False No Solution

Solve the following by SUBSTITUTION

$x = 5y + 10$

$2x - 10y = 20$

$2(5y+10) - 10y = 20$

$10y + 20 - 10y = 20$

$20 = 20$

True Infinite Solutions

Solve the following by SUBSTITUTION

$2x + y = 3$

$-4x + y = -9$

$2x + y = 3$
$-2x \quad -2x$
$y = -2x + 3$

$-4x + (-2x + 3) = -9$
$-4x - 2x + 3 = -9$
$-6x + 3 = -9$
$-3 \quad -3$
$\frac{-6x}{-6} = \frac{-12}{-6}$
$x = 2$

$2x + y = 3$
$2(2) + y = 3$
$4 + y = 3$
$-4 \quad -4$
$y = -1$

$(2, -1)$

Solve the following by SUBSTITUTION

$2x + y = -2$

$-4x - 2y = -7$

$2x + y = -2$
$-2x \quad -2x$
$y = -2x - 2$

$-4x - 2(-2x - 2) = -7$

$-4x + 4x + 4 = -7$

No Solution

Solve the following by SUBSTITUTION

$$4x - y = 7$$

$$-7x + y = -13$$

$+7x \quad +7x$

$y = 7x - 13$

$4x - 4(7x - 13) = 7$

$4x - 7x + 13 = 7$

$-3x + 13 = 7$

$-13 \quad -13$

$-3x = -6$

$\frac{-3x}{-3} = \frac{-6}{-3}$

$x = 2$

$4x - y = 7$

$4(2) - y = 7$

$8 - y = 7$

$-8 \quad -8$

$-y = -1$

$\frac{-y}{-1} = \frac{-1}{-1}$

$y = 1$

$(2, 1)$

Solve the following by SUBSTITUTION

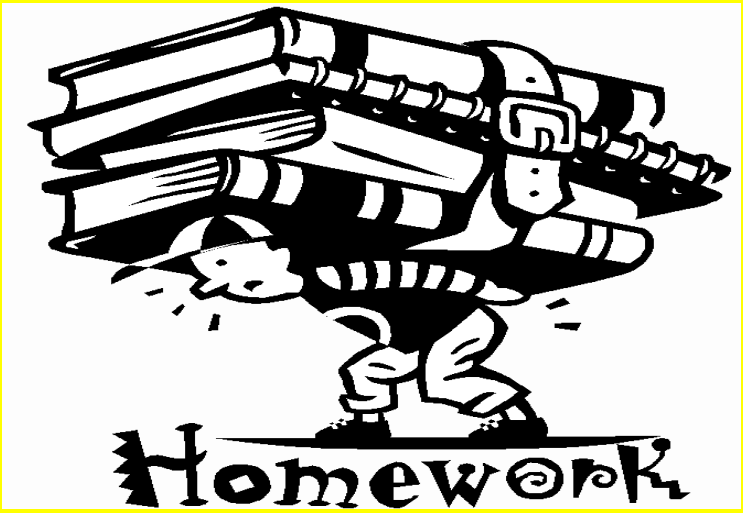
$$4x - y = 18$$

$$12x - 3y = 54$$

$4x - y = 18$
$-4x \quad -4x$
$-y = -4x + 18$
$\frac{-y}{-1} = \frac{-4x}{-1} + \frac{18}{-1}$
$y = 4x - 18$

$12x - 3(4x - 18) = 54$
$12x - 12x + 54 = 54$
$54 = 54$

Infinite Solution



Feb 9-9:47 AM

Coordinate Algebra Name: _____

Solving Systems by Substitution Date: _____ Block: _____

Solve each system by substitution.

1.) $y = -2$ $4x - 3y = 18$	2.) $y = 5x - 7$ $-3x - 2y = -12$
3.) $y = -3x + 5$ $5x - 4y = -3$	4.) $2x - 3y = -1$ $y = x - 1$
5.) $-3x - 3y = 3$ $y = -5x - 17$	6.) $-4x + y = 6$ $-5x - y = 21$

7.) $\begin{aligned} -7x-2y&=-13 \\ x-2y&=11 \end{aligned}$	8.) $\begin{aligned} -3x+3y&=4 \\ -x+y&=3 \end{aligned}$
9.) $\begin{aligned} -3x-4y&=2 \\ 3x+3y&=-3 \end{aligned}$	10.) $\begin{aligned} -2x-y&=-9 \\ 5x-2y&=18 \end{aligned}$

Attachments

Syllabus - Math I A.doc