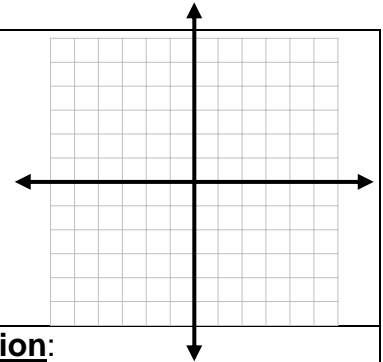


Direction: Write neatly; show your work in an organized fashion.

1. Solve the system by graphing:

$$y = -2x + 5$$

$$4x - y = 1$$



2. Solve by **Substitution**:

$$x + 2y = 6$$

$$2x + y = 8$$

3. Solve by **Elimination**:

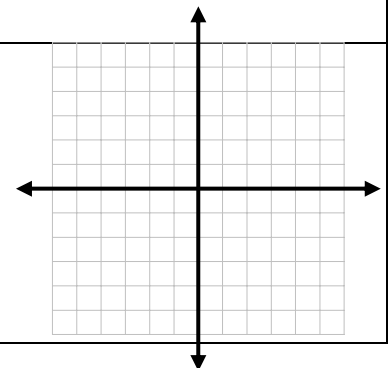
$$2x + 3y = 8$$

$$5x + 2y = -2$$

4. The perimeter of a rectangle is 96 cm. The length is 27 cm more than the width.
Find the length and the width.

5. Graph the inequality:

$$x - 2y > 2$$



1. Solve the system by graphing:

$$y = -2x + 5$$

$$4x - y = 1$$

$$\underline{-4x \quad -4x}$$

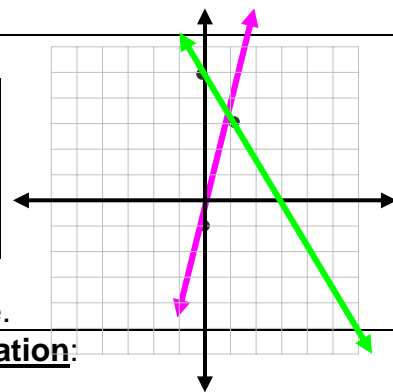
$$-y = -4x + 1$$

so $y = 4x - 1$

(0, 5)
 $m = -2/1 = \text{rise / run}$

$$y = 4x - 1$$

(0, -1)
 $m = 4/1 = \text{rise / run}$



The solution is (1, 3); the one point that solves both green and purple.

2. Solve by **Substitution**:

$$x + 2y = 6$$

$$2x + y = 8$$

$$\underline{-2x \quad -2x}$$

$$y = -2x + 8$$

Equation #2

Solution is
 (10/3, 4/3)

$$x + 2y = 6$$

Equation #1

$$x + 2(-2x + 8) = 6$$

$$x - 4x + 16 = 6$$

$$-3x + 16 = 6$$

$$\underline{-16 \quad -16}$$

$$\underline{-3x = -10 \quad -3 \quad -3}$$

so $x = 10/3$

Plug x answer into either equation. (I'll do #1).
 $x + 2y = 6$ goes to $(10/3) + 2y = 6$; [mult. by 3]
 $10 + 6y = 18$ } $\underline{6y = 8 \quad 3 \quad 3}$ } $y = 8/6 = 4/3$

3. Solve by **Elimination**:

$$2x + 3y = 8$$

$$5x + 2y = -2$$

$$(2)(2x + 3y) = 8(2)$$

$$(-3)(5x + 2y) = -2(-3)$$

$$4x + 6y = 16$$

$$\underline{-15x - 6y = 6}$$

$$-11x = 22$$

so $x = -2$

Plug in $x = -2$ into either equation (I'll do #2).
 $5(-2) + 2y = -2$
 $-10 + 2y = -2$
 $+10 \quad +10$
 $2y = 8$
 so $y = 4$

The solution is (-2, 4)

4. The perimeter of a rectangle is 96 cm. The length is 27 cm more than the width. Find the length and the width.

Set L = length
 Set W = width
 Perimeter = 96
 $96 = 2L + 2w$
 $L = W + 27$

The solution is $W = 10.5$ cm
 and $L = 37.5$ cm

$$96 = 2(W + 27) + 2w, \text{ so } 96 = 2W + 54 + 2W, \text{ so } 96 = 4W + 54$$

$$\underline{-54 \quad -54}$$

$$42 = 4W$$

so $W = 10.5$ cm

So $L = 37.5$ $L = 10.5 + 27$

5. Graph the inequality:

$$x - 2y > 2$$

Step #1
 Graph $x - 2y = 2$
 with a dashed line

X	Y
0	-1
2	0
4	1

Step #2
 Test (0,0) and shade
 $0 - 2(0) > 2$
 $0 > 2$ false, shade below

