

Agenda

Homework:

- Standard Form WS
- AM

Materials:

- Ruler
- Notebook

Do Now:

1. Compare homework answers with a homework partner

Point-Slope Homework Review

- [Worksheet](#)

Classwork

- Complete Point-Slope WS Posters (5-10 min)
- Share out of Posters (10 min)
- Notes on Standard Form (15-20 min)
- Practice/Homework – Standard Form (30 min)
- Exit Pass (10 min)



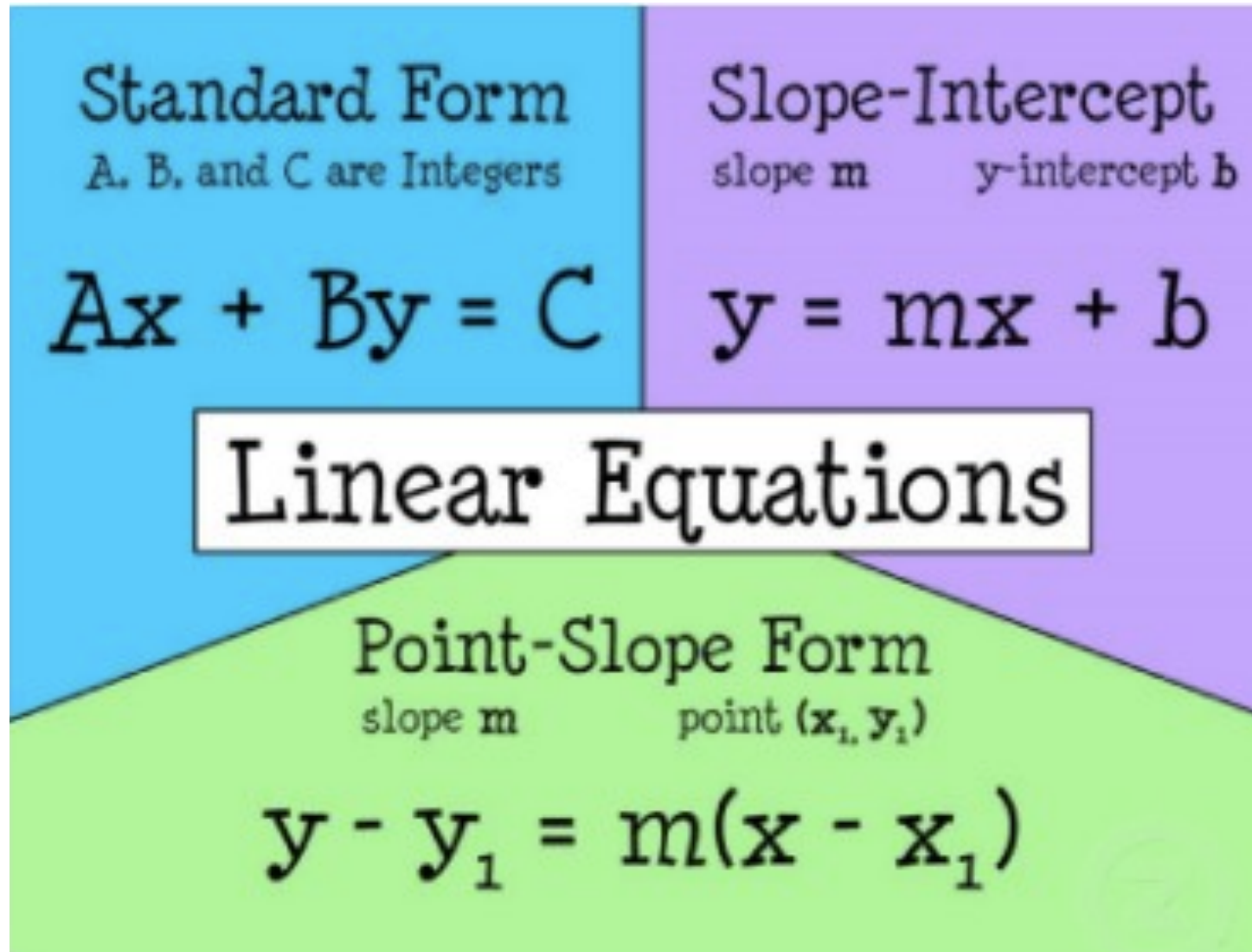
Set Up Cornell Notes

- **Topic:** Standard Form of Linear Equations
- **EQ:** Explain what Standard Form is and how to use it.

- **Update Table of Contents:**

Date	Topic
11/30 (Pd. 3)	Standard Form of Linear
12/3 (Pd. 6)	Equations

What is Standard Form (linear)?





What is Standard Form (linear)?

A linear equation in the form $Ax + By = C$ is in **STANDARD FORM**, where **A, B, and C are integers**. And **A&B are NOT BOTH zero**.

The set of *integers includes*:

{ ... -4, -3, -2, -1, 0, 1, 2, 3, 4 ... }

NO FRACTIONS!!!
NO DECIMALS !!!

PRACTICE: Tell whether the equations below are in **standard form**.

A	$5y - 2 = 4x$	NO
B	$4x + 2y = -2$	YES
C	$y = -\frac{5}{7}x + 8$	NO
D	$\frac{2}{3}x + y = -5$	NO
E	$-7x + 3y = -5$	YES
F	$7.5x + y = 4.3$	NO

x-term & y-term are on the left
No fractions, no decimals !

 FRACTIONS

 DECIMALS

How do you rewrite an equation in STANDARD FORM?

Example: Write each linear equation in standard form.

A. $57 - 2y = 4x$

$+2y$ $+2y$

$$57 = 4x + 2y$$
$$4x + 2y = 57$$

$$4x + 2y = 57$$

B. $7y = -\frac{3}{7}x + 8$

$7y = -3x + 56$

$+3x$ $+3x$

$$3x + 7y = 56$$

$$3x + 7y = 56$$

How do you rewrite an equation in STANDARD FORM?



Example: Write each linear equation in standard form.

c. $5.7x - 5.3 = 4y$

$57x - 53 = 40y$

$-40y + 53$

$57x - 40y = 53$

$$57x + 40y = 53$$

What is the purpose of Standard Form?

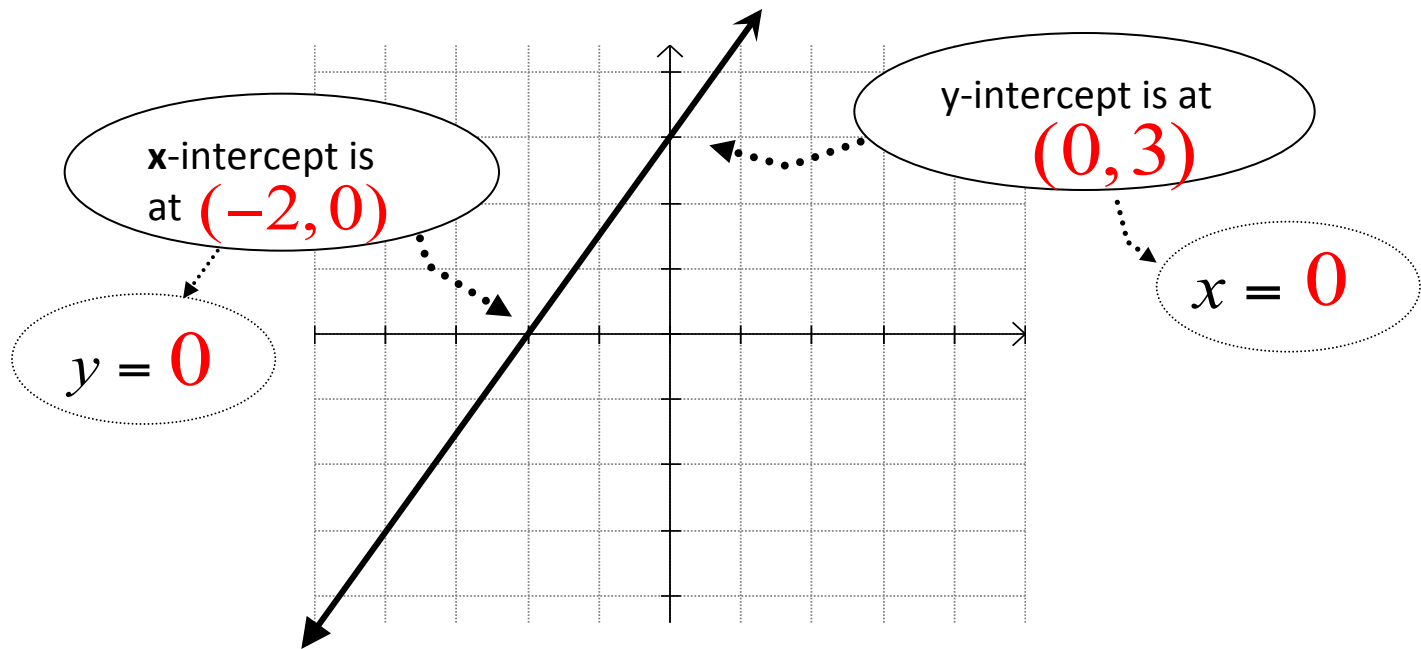


- Standard form of linear equations are used when solving SYSTEMS of linear equations
- Easy to find the x & y intercepts

Definitions:

y-intercept: Point where the graph crosses the y -axis

x-intercept: Point where the graph crosses the x -axis



We know that $y = 0$ at the x intercept,
so we can plug in 0 for y to find the x intercept.

We know that $x = 0$ at the y intercept,
so we can plug in 0 for x to find the y intercept.



How do you find the x & y intercepts of a linear equation written in standard form?

A. $4x + 2y = -12$

x- intercept

Plug in 0
for y

$$4x + \cancel{2(0)} = -12$$

$$\frac{4x}{4} = \frac{-12}{4}$$

$$x = -3$$

x intercept $\rightarrow (-3, 0)$

y-intercept

Plug in 0
for x

$$\cancel{4(0)} + 2y = -12$$

$$\frac{2y}{2} = \frac{-12}{2}$$

$$y = -6$$

y intercept $\rightarrow (0, -6)$

How do you graph from Standard Form?



- If an equation is written in standard form, you can use the **x & y intercepts** to graph the equation quickly.

How do you graph from Standard Form? ★

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

x-intercept: ($y = 0$)

$$-3x + 2(0) = 12$$

$$\frac{-3x}{-3} = \frac{12}{-3}$$

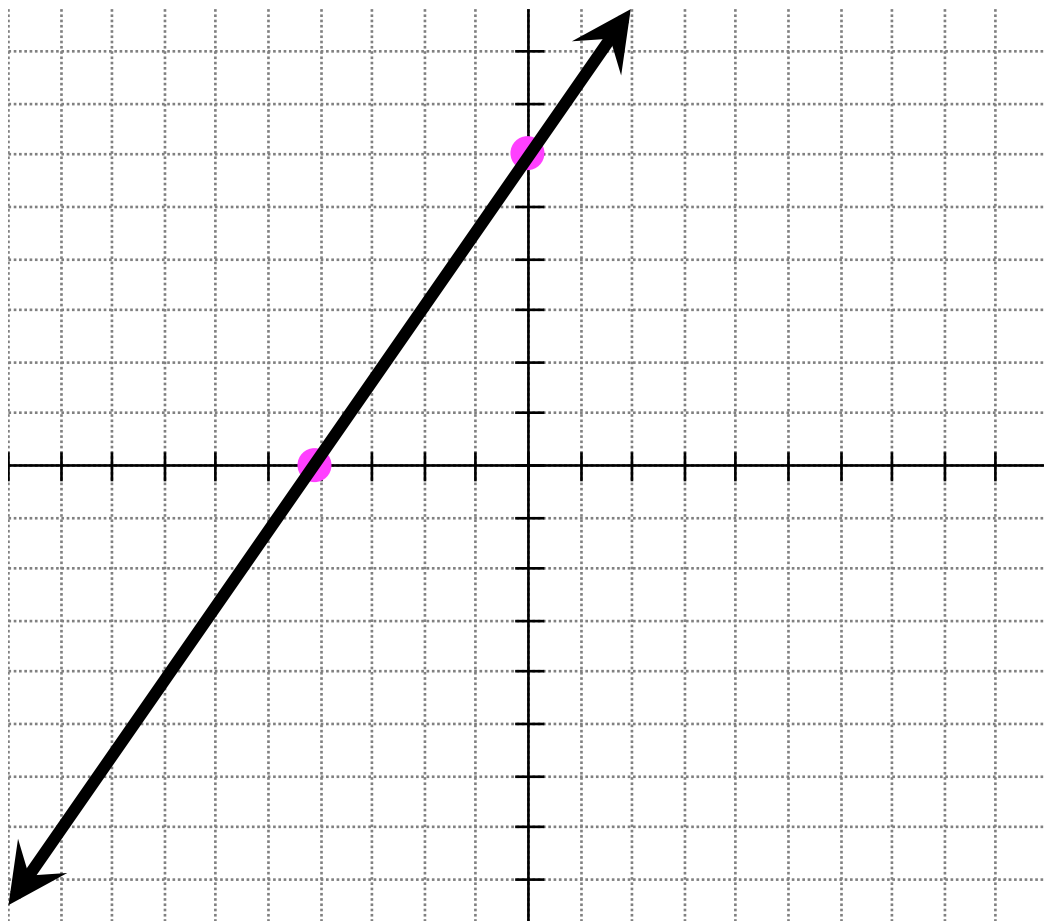
$$x = -4$$

y-intercept: ($x = 0$)

$$-3(0) + 2y = 12$$

$$\frac{2y}{2} = \frac{12}{2}$$

$$y = 6$$



Exit Pass

- See Worksheet