

Algebra I

Notes 5.4, Part 1 The Standard Form of an Equation

Objectives: For an equation in the form $Ax + By = C$:

identify the y-intercept by substituting 0 for x; identify the x-intercept by substituting 0 for y; and graph the equation using the intercepts.

The coordinates of a y-intercept are $(0, b)$. A y-intercept is where a graph crosses the ____-axis.

The coordinates of an x-intercept are $(a, 0)$. An x-intercept is where a graph crosses the ____-axis.

Using the linear form $Ax + By = C$ (called standard form):

you substitute 0 for x and find the y-intercept of the equation;

$(0, \text{y-intercept})$

then you substitute 0 for y and find the x-intercept of the equation.

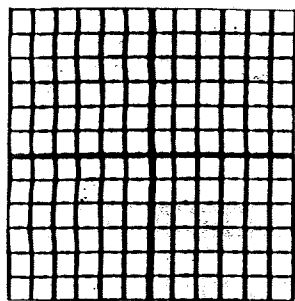
$(\text{x-intercept}, 0)$

Use the two intercepts to graph the line.

Using the standard form of a linear equation, find the intercepts and graph each line.

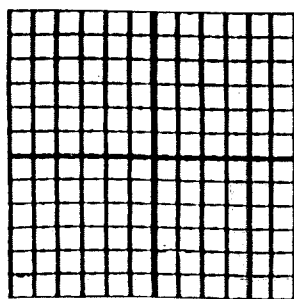
1. $4x + 6y = 12$

x	y
0	0



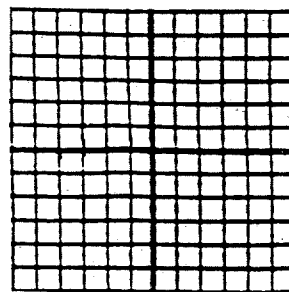
2. $8x - 12y = 24$

x	y
0	0



3. $-6x + 10y = 30$

x	y
0	0



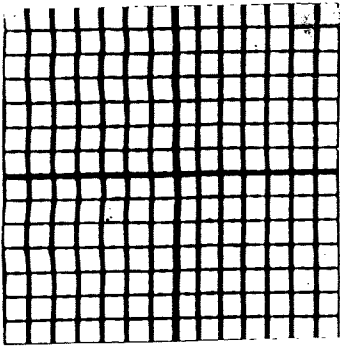
What are the **slopes** of each line?

Classroom Practice

Using the standard form of a linear equation, find the intercepts and graph each line.

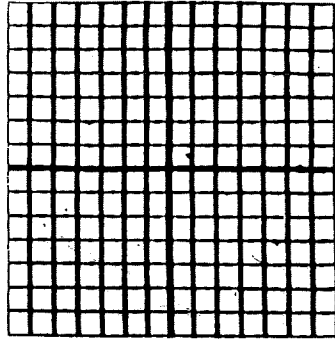
1. $2x + 3y = -6$

x	y
0	0



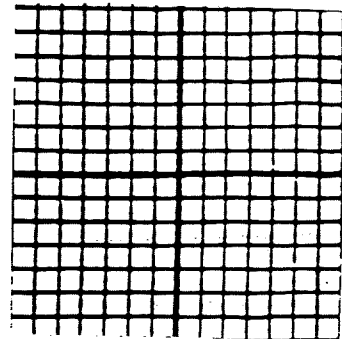
2. $x - 2y = 4$

x	y
0	0



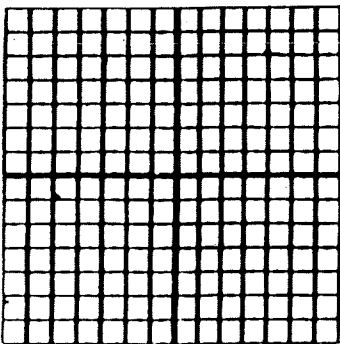
3. $-10x + 10y = 20$

x	y
0	0



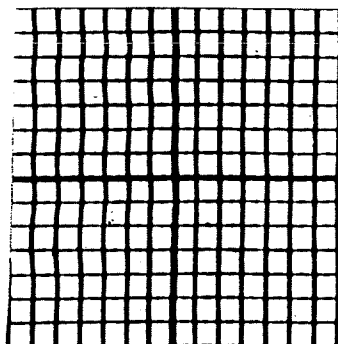
4. $-2x + 5y = 10$

x	y
0	0



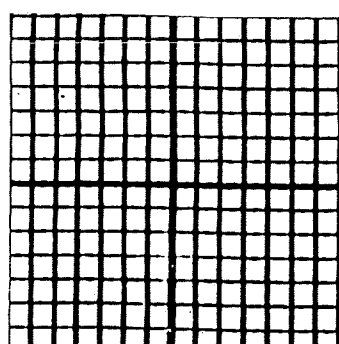
5. $4x - 4y = 16$

x	y
0	0



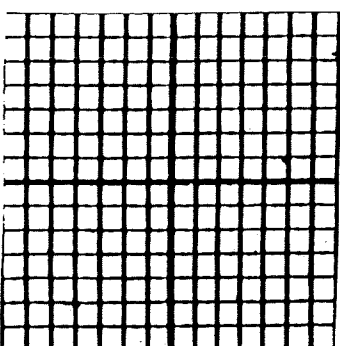
6. $-8x + 16y = 32$

x	y
0	0



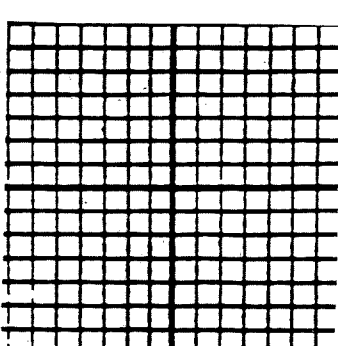
7. $6x + 9y = 36$

x	y
0	0



8. $5x - 5y = 25$

x	y
0	0



9. $-5x + 6y = 30$

x	y
0	0

