

Key Idea

Standard Form of a Linear Equation

The **standard form** of a linear equation is

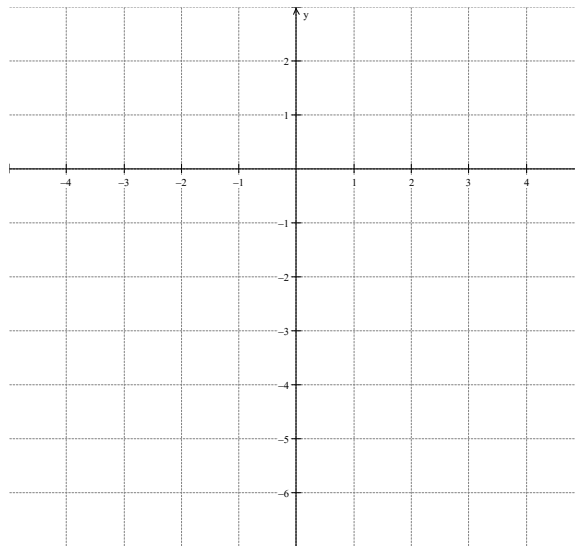
$$Ax + By = C$$

where A and B are not both zero.

Method 1

Ex:) Graph the following.

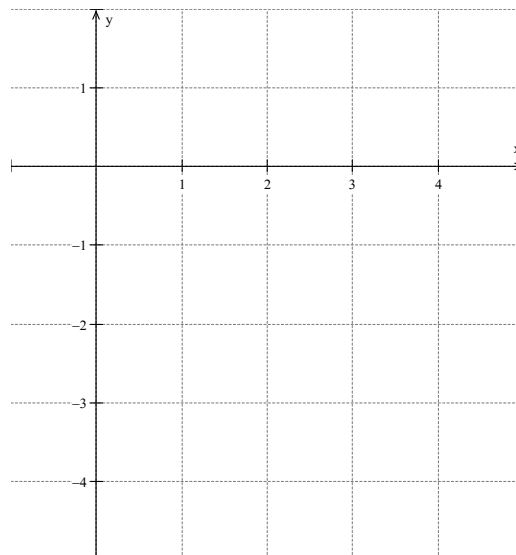
$$-2x + 3y = -6$$



Notes:

OYO:) Graph the following.

$$4x - 3y = 12$$

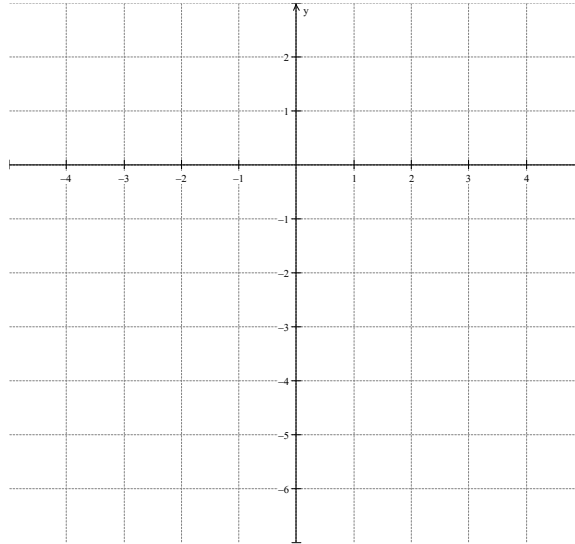


Notes:

Method 2

Ex:) Graph the following.

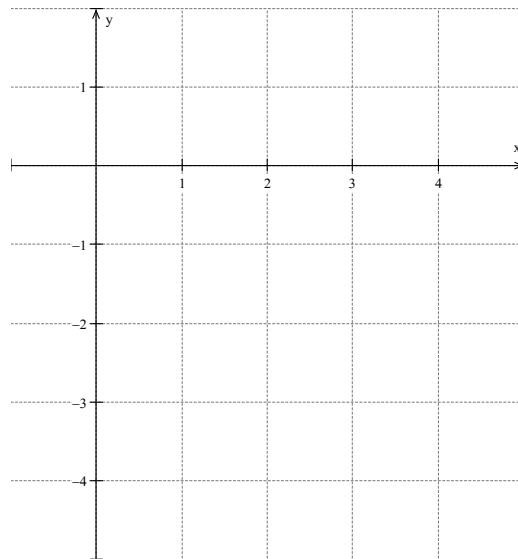
$$-2x + 3y = -6$$



Notes:

OYO:) Graph the following.

$$4x - 3y = 12$$



Notes:

Clear the fractions to make the equation in standard form easier to graph using intercepts.

Notes:

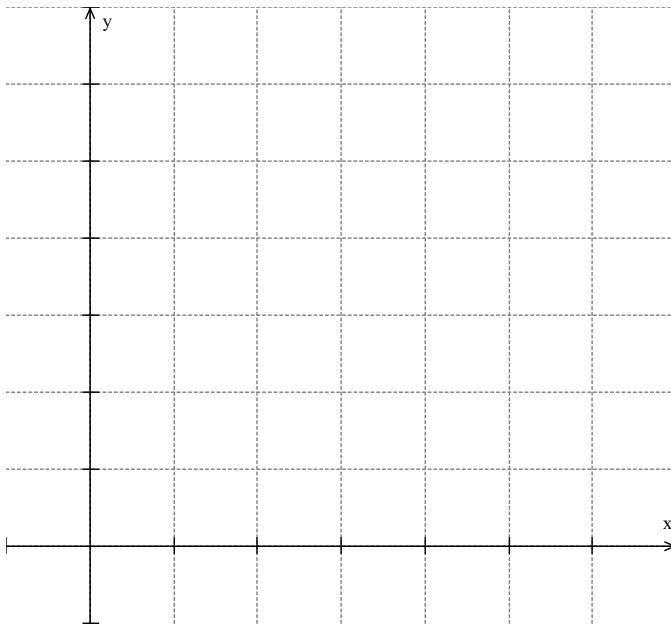
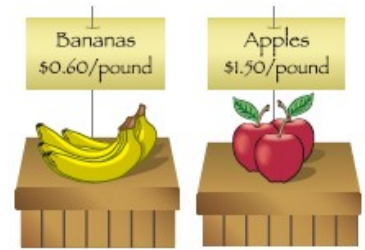
Ex:) $\frac{3}{4}x - \frac{1}{2}y = \frac{1}{4}$

OYO:) $-\frac{5}{6}x + \frac{1}{3}y = -\frac{1}{2}$

Ex:) You have \$6 to spend on apples and bananas. The equation $1.5x + 0.6y = 6$ represents this situation, where x is the number of pounds of apples and y is the number of pounds of bananas.

Notes:

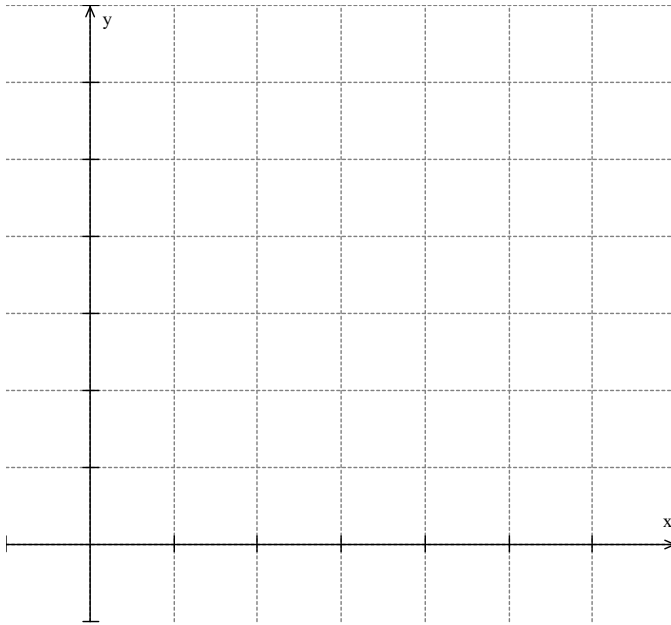
Graph the equation. Interpret the intercepts.



OYO:) You complete two projects for a class in 60 minutes. The equation $x + y = 60$ represents this situation, where x is the time (in minutes) you spend assembling a birdhouse and y is the time (in minutes) you spend writing a paper.

Notes:

a. Graph the equation. Interpret the intercepts.



b. You spend twice as much time assembling the birdhouse as you do writing the paper. How much time do you spend writing the paper? Justify your answer.