## The Graph of a Linear Equation in Two Variables Is a Line


(1) Plot the ordered pairs on a coordinate plane.Describe how to graph the line corresponding to the equation $y=\frac{1}{3} x+12$Decide which statements about linear equations are true.

Identify the $x$ - and $y$-intercepts for each line.

Find the $x$ - and $y$-intercepts for the given equations.
Graph the line for the equation $f(x)=\frac{20}{3} x+20$.
with lots of tips, answer keys, and detailed answer explanations for all of the problems.

## Plot the ordered pairs on a coordinate plane.

Highlight the given ordered pairs. Use different colors.
$\Delta(0,6)$
$\sum(9,0)$
$\sum(3,4)$

$(6,2)$


## Hints for solving these problems

## 1 . Plot the ordered pairs on a coordinate plane.

## Hint \#1

Keep in mind that the first coordinate of an ordered pair is the $x$-coordinate and the second one is the $y$ coordinate.

## Hint \#2

To draw a point proceed as follows:

- Draw a line parallel to the $y$-axis which intersects the given $x$-coordinate.
- Draw a line parallel to the $x$-axis which intersects the given $y$-coordinate.
- The intersection of these two lines is the desired point.


## Answers and detailed answer explanations for these problems

 Plot the ordered pairs on a coordinate plane.\& $\quad(0,6)$
$(9,0)$
$(3,4)$
$(6,2)$



Here you see the correct ordered pairs. To plot them on the coordinate plane first remember:

- The leftmost coordinate is the $x$-coordinate.
- The rightmost coordinate is the $y$-coordinate.

Draw any ordered pair or point as follows:

- Draw a line parallel to the $y$-axis which intersects the given $x$ coordinate.
- Draw a line parallel to the $x$-axis which intersects the given $y$-coordinate.
- The intersection of these two lines is the desired point.

So you get the points we want:

- $(0,6)$ the green one on the $y$-axis
- $(3,4)$ the blue one
- $(6,2)$ the violet one
- $(9,0)$ the yellow one on the $x$-axis

Can you recognize that all given points are lying on one line? The equation for this line is $y=-\frac{2}{3} x+6$.

