## Lesson 9

## Graphing Linear Equations

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1) There are many ways to graph the equation of a line. In this lesson we will focus on two methods.

The first method uses the formula $\mathrm{y}=\mathrm{mx}+\mathrm{b}$. In this formula m is the slope and b is the y - intercept.
Steps to follow . . .

1. Use this method when you can get y by itself.
2. Identify the values for the slope and $y$ - intercept from the equation
3. Always plot the $y$ - intercept first
4. From the $y$ - intercept, apply the slope
5. connect the points to graph the line

The second method requires you to find the x - intercept and the y - intercept.
Steps to follow . . .

1. Use this method when the equation looks like $\mathrm{Ax}+\mathrm{By}=\mathrm{C}$
2. Substitute 0 in for x , solve for y
3. This is the $y$ - intercept, plot it on the $y$ - axis
4. Substitute 0 in for y , solve for x
5. This is the $x$-intercept, plot is on the $x$-axis
6. Connect the two points to graph the line

## Sketch the graph of each line.

2) $y=\frac{3}{2} x$

3) $y=-3 x+4$

4) $2 x+y=4$

5) $x=-3$

