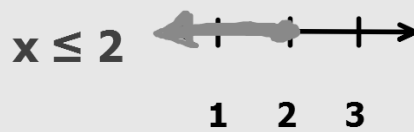
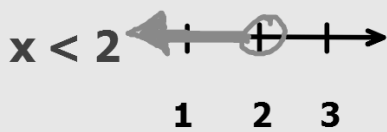
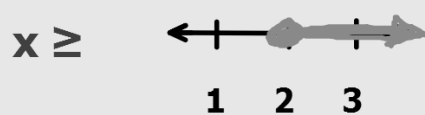
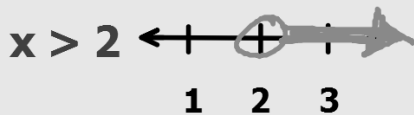


Linear Inequalities

Remember when we graphed inequalities with one variable?



We used a(n) open circle when it was $<$ or $>$.

We used a(n) closed circle when it was \leq or \geq .

When we graph using 2 variables, it is basically the same concept.

$<$ and $>$ will have a dotted line



\leq and \geq will have a solid line



When shading $<$ or \leq , shade below the line.

When shading $>$ or \geq , shade above the line.

Graph $y > x - 5$

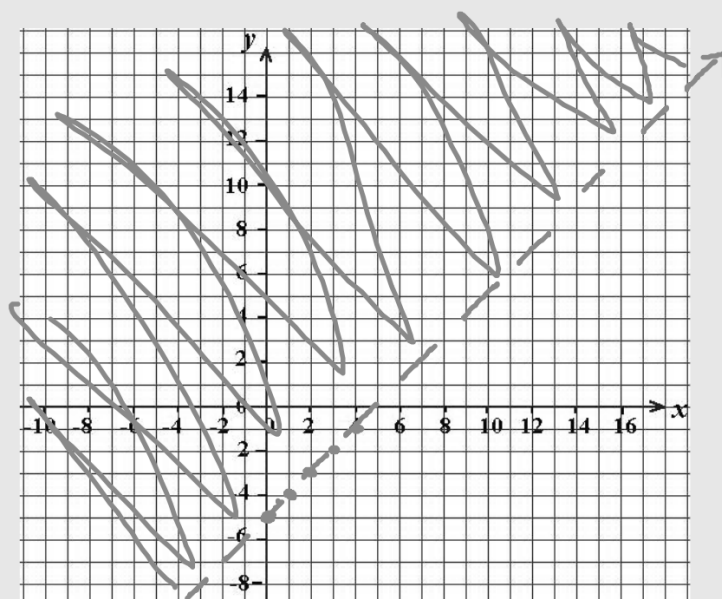
$m = 1$ $\frac{1}{1}$

$b = -5$

What type of line do you use? *dotted*

How do you know which side to shade?

above (greater than) ← dotted



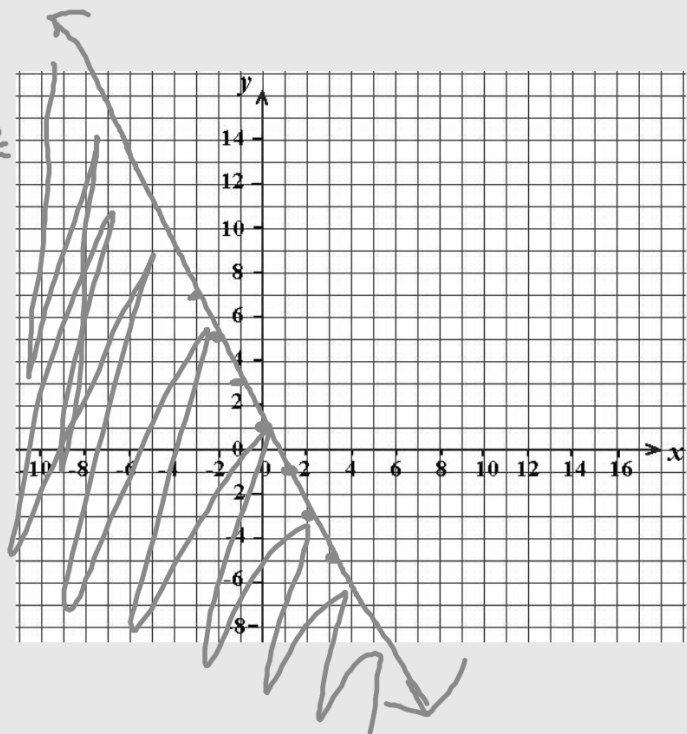
Graph $y \leq -2x + 1$

$m = -2$ $-\frac{2}{1}$ $\frac{2}{-1}$

$b = 1$

What type of line do you use? *solid*

How do you know which side to shade?
below - less than



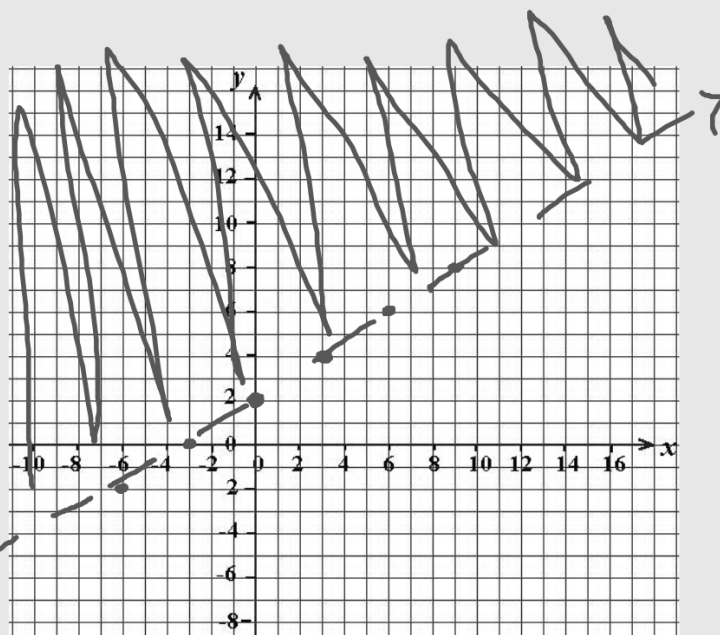
Graph $y > \frac{2}{3}x + 2$

$m = \frac{2}{3}$

$b = 2$

What type of line do you use? *dotted*

How do you know which side to shade? *above*



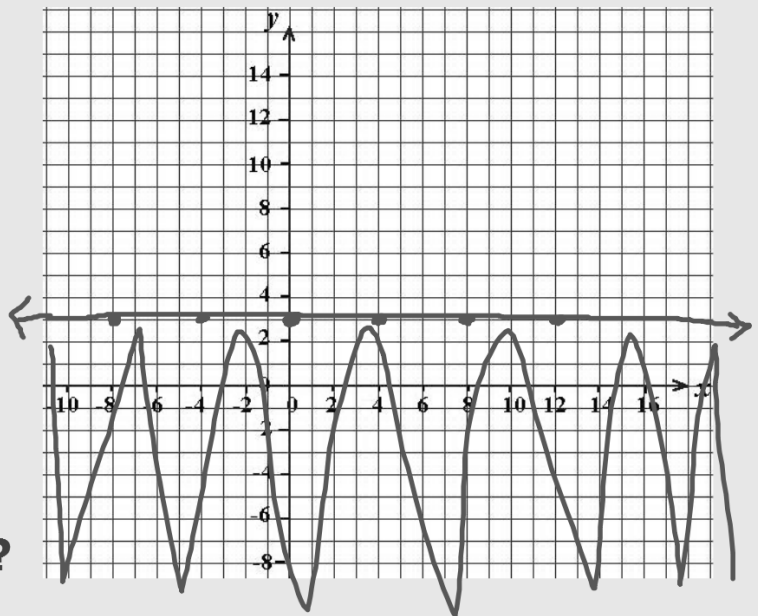
Graph $y \leq 3$

$m = 0$

$b = 3$

What type of line do you use? *solid*

How do you know which side to shade?
below



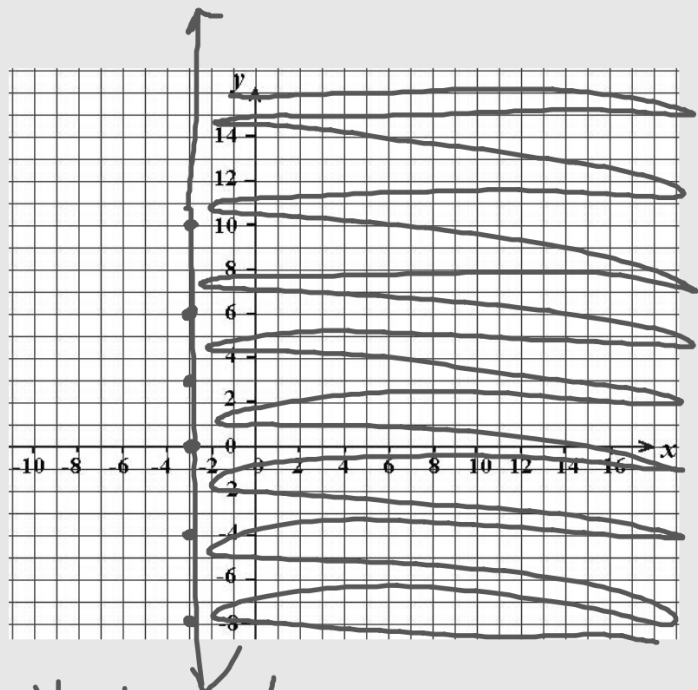
Graph $x \geq -3$

$m =$ no

$b =$ no

What type of line do you use? solid

How do you know which side to shade?



Vertical line -
> shade rt.
< shade lt.

Graph $2x - y < -4$

$m =$
2

$b =$
4

$y < -2x - 4$
 $y > 2x + 4$

What type of line do you use?

dotted

How do you know which side to shade?

above

