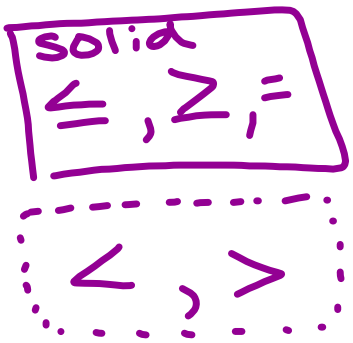
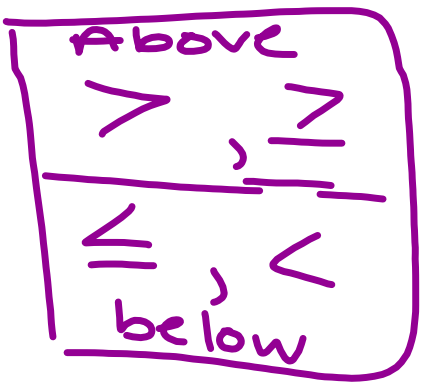
Linear Inequalities

1. Solve for y
2. Graph using slope intercept ($y=mx+b$)
3. Solid or dash?
4. Shade?

*** when you divide by a negative, change the inequality





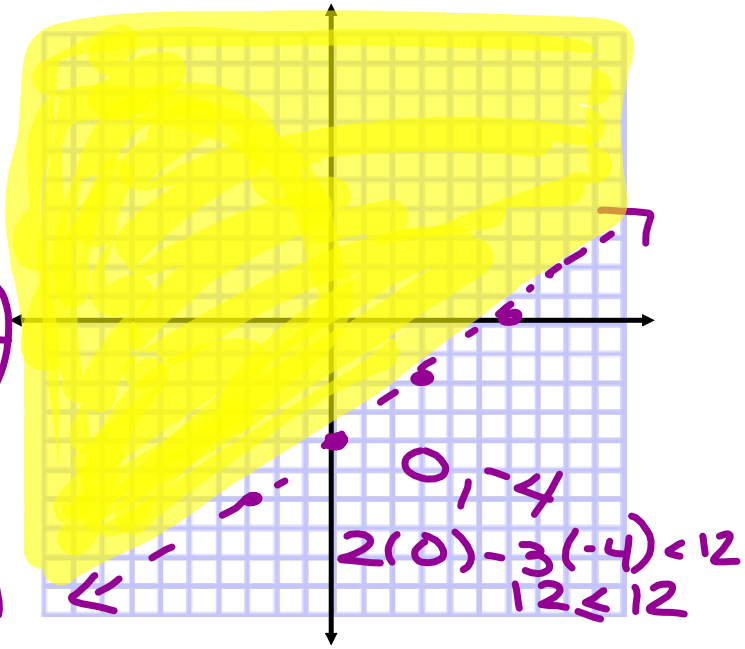
$2x - 3y < 12$

$-2x \quad -2x$

$\frac{-3y}{-3} < \frac{-2x + 12}{-3}$

$y > \frac{2}{3}x - 4$

$m = \frac{2}{3} \quad b = -4$



Note: Your solutions is in the DOUBLE shaded region.

$y \leq 4x - 1$

$m = 4 \quad b = -1$

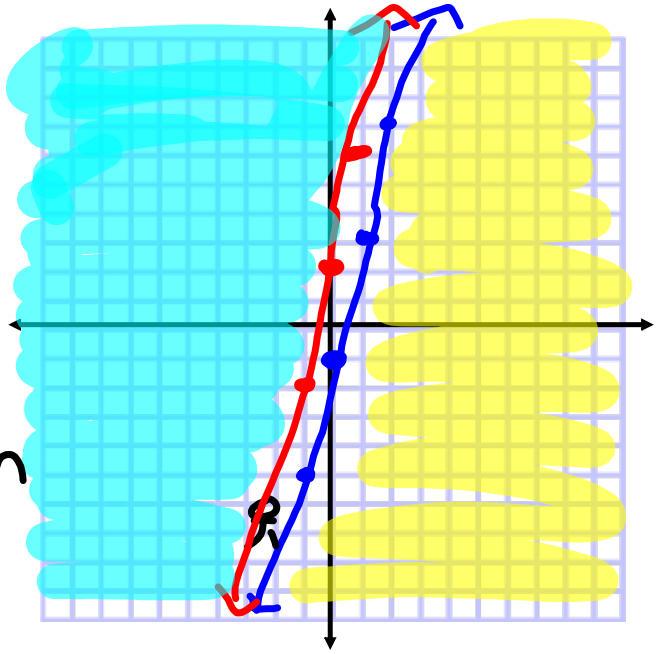
$y \geq 4x + 2$

$y\text{-int}$

$m = 4 \quad b = 2$

$\frac{4}{1}$

NO solution



$x + y \leq 2$

$-x \quad -x$

$y \leq -x + 2$

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

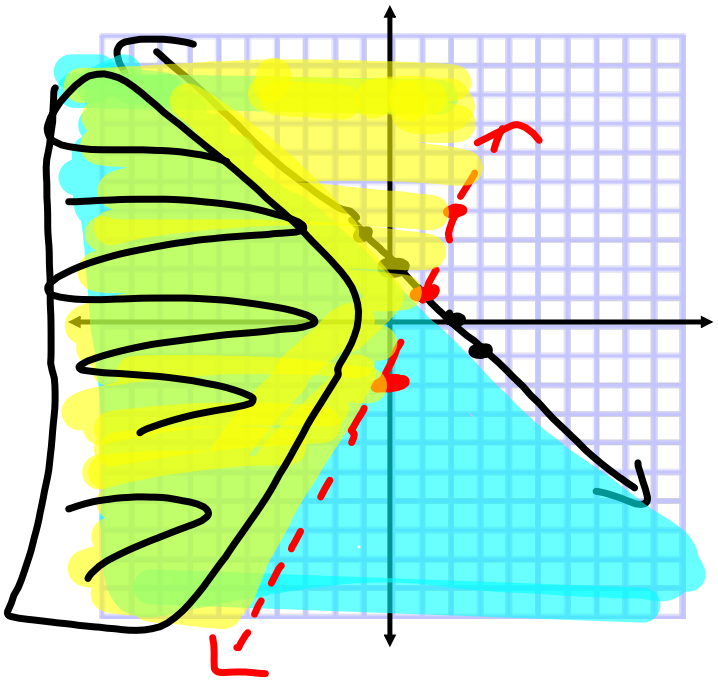
$3x - y < 2$

$-3x \quad -3x$

$\frac{-1y}{-1} < \frac{-3x + 2}{-1}$

$y > 3x - 2$

$m = 3 \quad b = -2$



$y > -x + 3$

$m = -1 \quad b = 3$

$y > \frac{3}{2}x - 2$

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

$b = -2$