

Graphing a system of two linear inequalities: Advanced

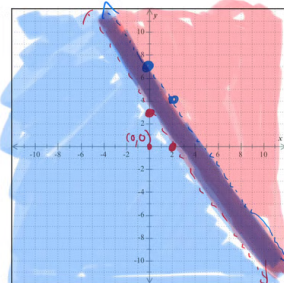
Graphing a system of two linear inequalities: Advanced

Graph the solution to the following system of inequalities.

$$3x + 2y < 14$$

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

Then give the coordinates of one point in the solution set.



2 differences for graphing INEQ

① $\leq, \geq$ solid
 $<, >$ dashed

② SHADE!



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

$$m = -\frac{3}{2} \quad \text{down 3 right 2}$$

$$b = 3 \quad \text{*start here*}$$

to shade:

plug in (0,0) $0 > -\frac{3}{2}(0) + 3$
 $0 > 0 + 3$
 $0 > 3$ NO

Point in the solution set:



$$3x + 2y < 14$$

$$-3x \quad -3x$$

$$\frac{2y < -3x + 14}{2}$$

$$y < -\frac{3}{2}x + 7$$

$$m = -\frac{3}{2} \quad b = 7$$

to shade:

plug in (0,0)

$$3(0) + 2(0) < 14$$

$$0 < 14$$

Yes