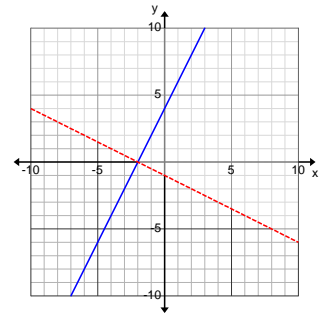




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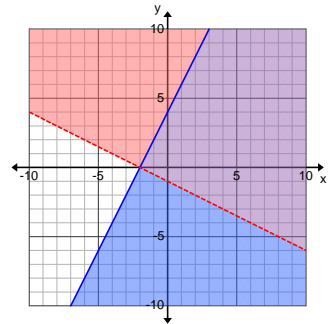
### GRAPHING SYSTEMS OF LINEAR INEQUALITIES WORKSHEET

**Example:** Graph the System of Inequalities:  $y \leq 2x + 4$  and  $y > -\frac{1}{2}x - 1$



**Step One:** Graph both lines. If an equation has a  $\leq$  or a  $\geq$  sign then the line is graphed as a solid line. If an equation has a  $<$  or a  $>$  sign then the line will be dashed. The blue line ( $y \leq 2x + 4$ ) is solid, the red line ( $y > -\frac{1}{2}x - 1$ ) is dashed.

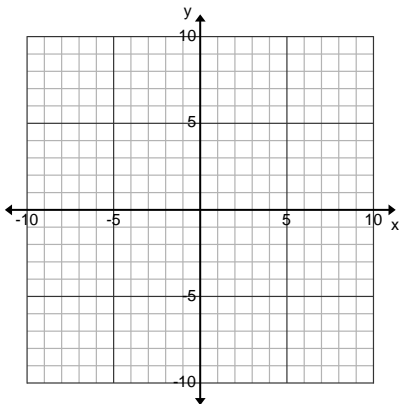
**Step Two:** Pick a point on either side of one of the lines. (Use  $(0, 0)$  if it is not on the lines!) Plug that point into each equation. If the point that was picked makes the inequality correct that is the side of the line you want to shade. In this case,  $(0,0)$  is a solution to both inequalities. Shade above the dashed line and below the solid line.



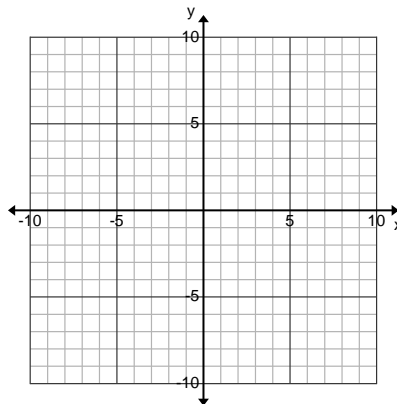
**Step Three:** Shade above or below each line. (Noticed that the double shaded area (in purple) is the area in which both lines have commonly shaded therefore it is our solution.)

**Directions:** Graph and shade the inequalities. Make sure to darken the area that is our solution.

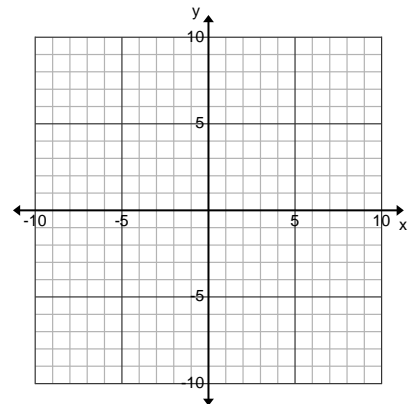
1.  $y \geq x + 2$   
 $y > 2x - 4$



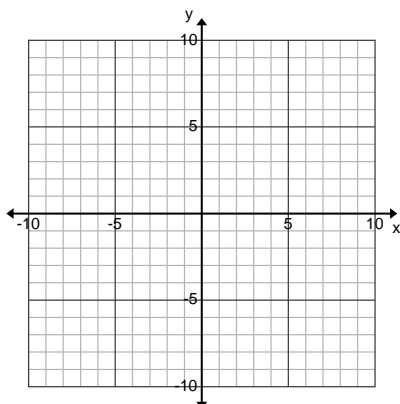
2.  $y \geq 3x + 1$   
 $y \geq x - 3$



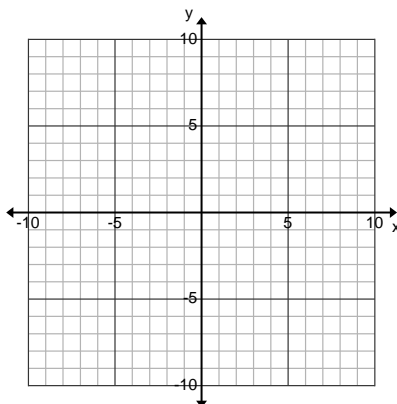
3.  $y \leq x$   
 $y \geq 3x + 4$



4.  $y < 6x - 2$   
 $y > 3x + 7$



5.  $y < 2x + 4$   
 $y > 2x - 3$



6.  $y \leq 3x + 1$   
 $y > 4$

