Assignment 7.1_1	**Period (circle one):** 5 7	**Date:**	**Name:** Key

The Playoffs
Graphing Inequalities

1. Jeremy is working at two jobs to save money for his college education. He makes $8 per hour working for his uncle at Pizza Pie busing tables and $10 per hour tutoring peers after school in math. His goal is to make $160 per week.

   a. If Jeremy works 8 hours at Pizza Pie and tutors 11 hours during the week, does he reach his goal?

   $8 \cdot (8) + 11(10) \geq 160$?

   $64 + 110 \geq 160$

   $174 \geq 160$ ✓

   yes, Jeremy would reach his goal of $160 a week.

   b. Write an expression to represent the total amount of money Jeremy makes in a week from working both jobs. Let x represent the number of hours he works at Pizza Pie and y represent the number of hours he tutors.

   $8 \cdot x + 10 \cdot y$

   c. After researching the costs of colleges, Jeremy decides he needs to make more than $160 each week. Write an inequality in two variables to represent the amount of money Jeremy needs to make.

   $8x + 10y > 160$

   d. Graph the inequality from part (c).

x	y
0	16
20	0

$8(0) + 10y > 160$

$10y > 160$

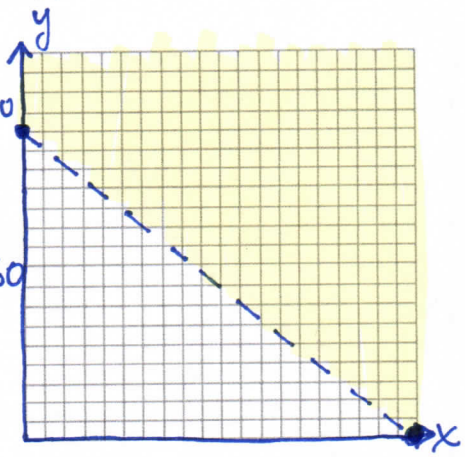
$y > 16$

$8x + 10(0) > 160$

$8x > 160$

$\frac{8x}{8} > \frac{160}{8}$

$x > 20$



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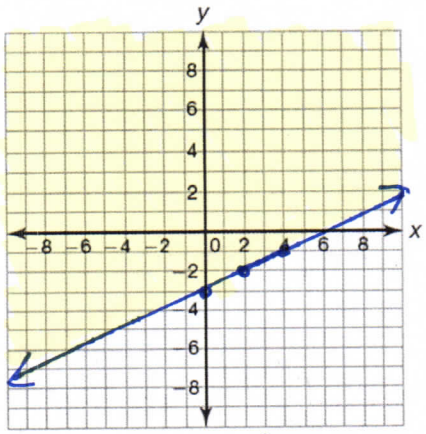
Graph each linear inequlity

2. $y \geq \frac{1}{2}x - 3$

x	y
0	-3
2	-2
4	-1



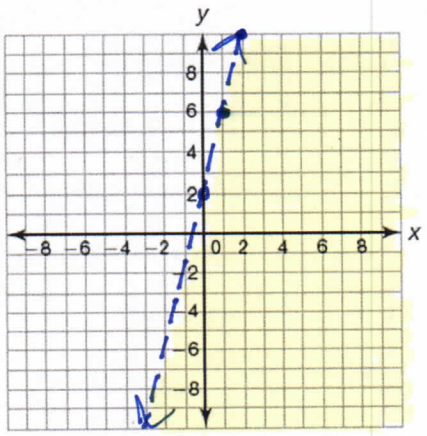
$y \geq \frac{1}{2}(0) - 3$
$y \geq -3$

$y \geq \frac{1}{2}(2) - 3$
$y \geq 1 - 3$
$y \geq -2$

$y \geq \frac{1}{2}(4) - 3$
$y \geq 2 - 3$
$y \geq -1$

3. $y < 4x + 2$

x	y
0	2
1	6
2	10



$y < 4(0) + 2$
$y < 2$

$y < 4(1) + 2$
$y < 4 + 2$
$y < 6$

$y < 4(2) + 2$
$y < 8 + 2$
$y < 10$