5.1. Linear Inequalities in 2 variables

Wednesday, February 21, 2018 1:00 PM

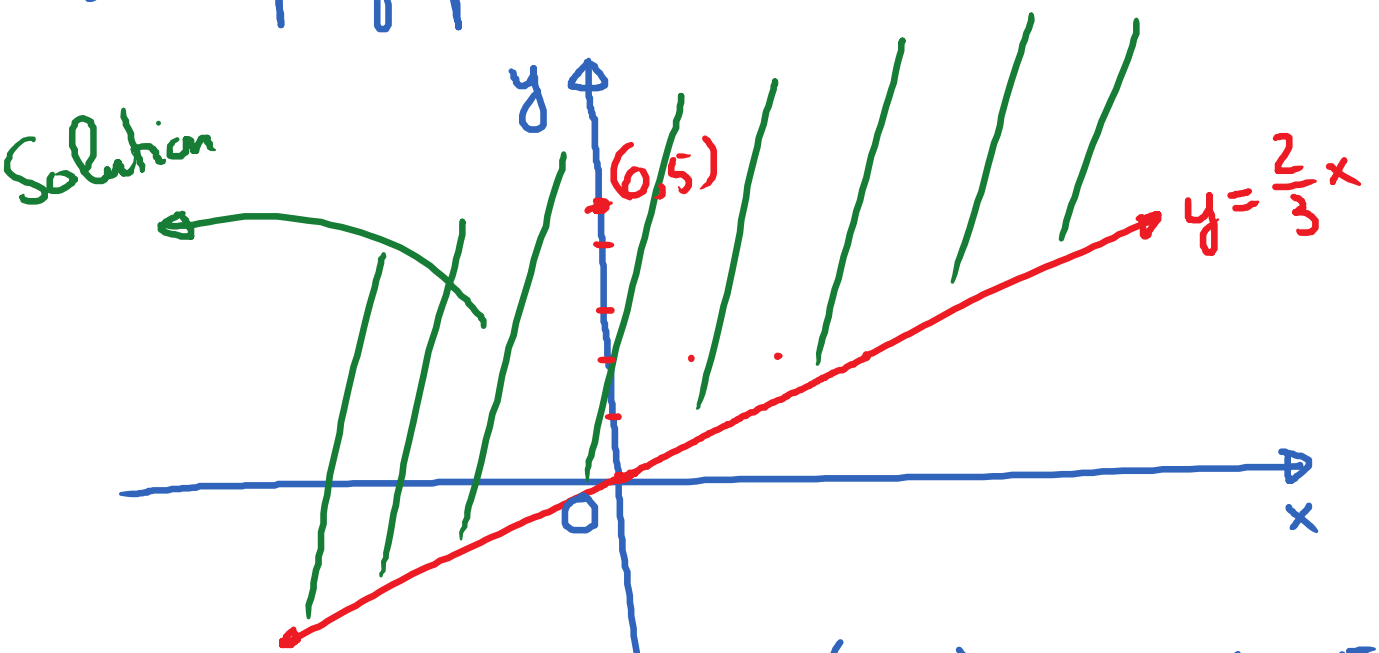
Goals: ① Graph and solve linear inequalities in 2 variables x and y

② Some applications.

E.g. Solve and graph the solution set of the inequality:

$$2x < 3y.$$

1st Step: graph the line. $2x = 3y \longrightarrow y = \frac{2}{3}x$



2nd Step: Use test point. $(0,5)$: $2 \cdot 0 < 3 \cdot 5$

Ex. Solve the inequality:

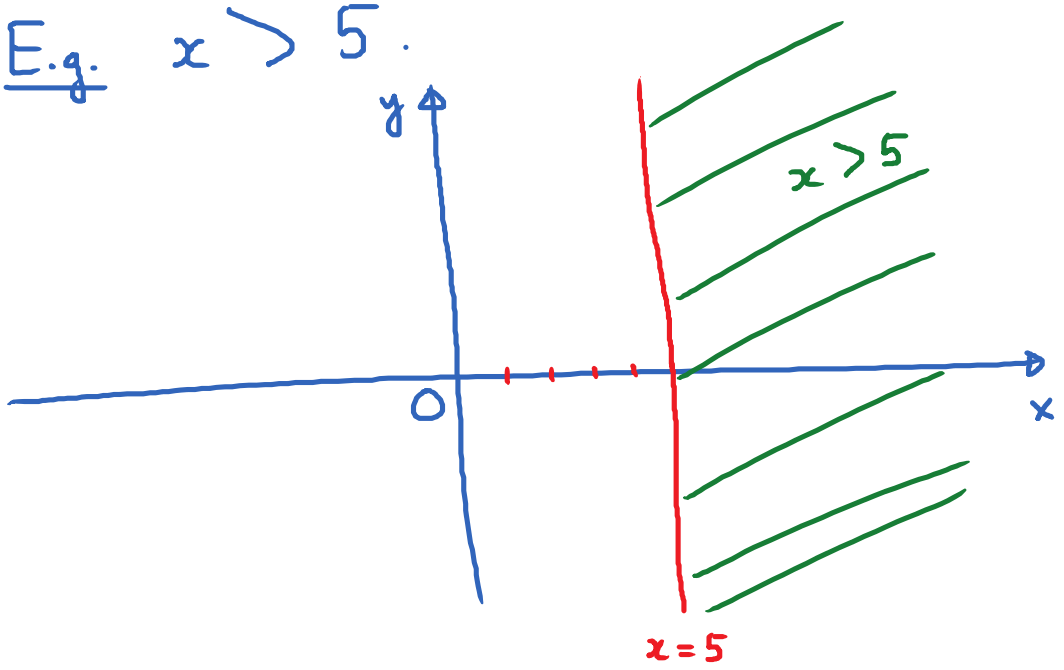
$$3x - 5y > 15.$$

Shade the correct region.

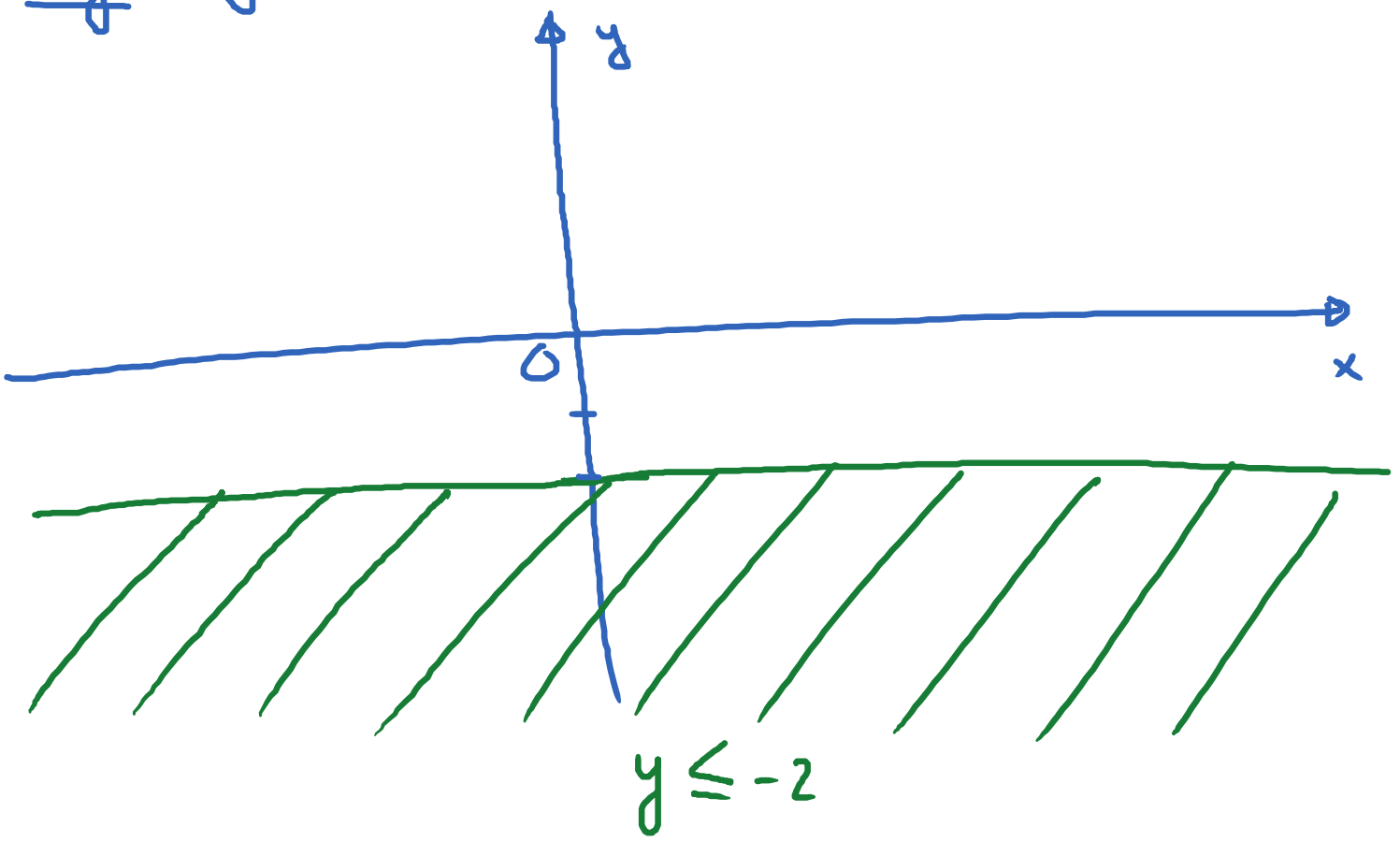
Solved in class.

Special Inequalities:

E.g. $x > 5$.



Eg. $y \leq -2$



• Application:

Plant A < 8 sedans / 6 minivans per week

Plant B < 5 sedans / 4 minivans

How many weeks should each plant operates to produce at least 40 sedans.

x : # of weeks A
y : # of weeks B