

Solve the linear systems below using any method. Be sure to show all your thinking. Then go over last night's HW in your group.

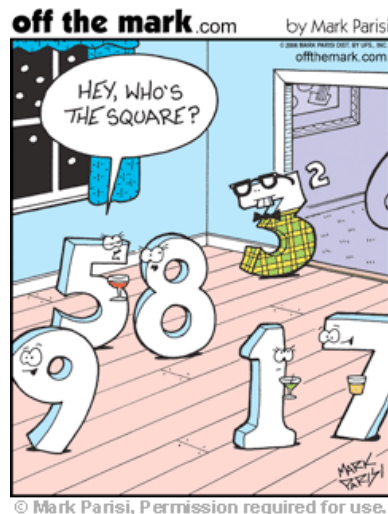
a.
$$\begin{cases} 2x + y = 5 \\ 3x - y = 15 \end{cases}$$

b.
$$\begin{cases} x + 2y = 5 \\ x - 6y = 11 \end{cases}$$

c.
$$\begin{cases} 2x + 6y = 7 \\ 3x - 2y = 5 \end{cases}$$

d.
$$\begin{cases} 2x + y = 5 \\ -4x - 2y = -10 \end{cases}$$

e.
$$\begin{cases} x + 2y = 5 \\ 3x + 6y = 15 \end{cases}$$



$$\text{b. } \begin{cases} x + 2y = 5 \\ x - 6y = 11 \end{cases}$$

$$\begin{aligned} 8y &= -6 \\ \Rightarrow y &= -\frac{6}{8} = -\frac{3}{4} \end{aligned}$$

$$\boxed{\left(6\frac{1}{2}, -\frac{3}{4}\right)}$$

$$x + 2y = 5$$

$$x + 2\left(-\frac{3}{4}\right) = 5$$

$$x + \left(-\frac{6}{4}\right) = 5$$

$$x + \left(-\frac{3}{2}\right) = 5$$

$$\Rightarrow x = 6\frac{1}{2}$$

a. $(4, -3)$

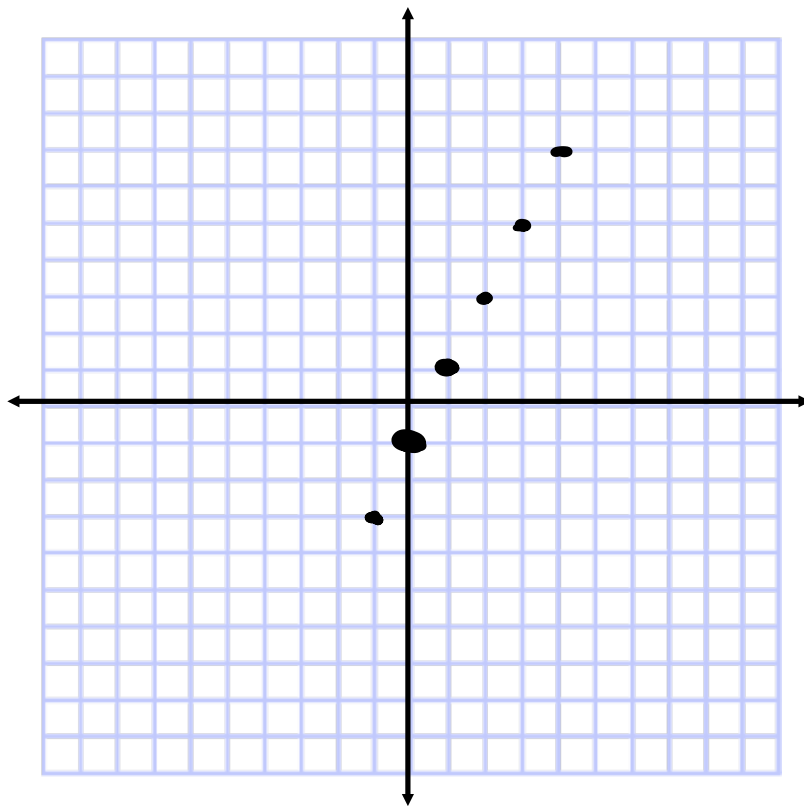
b. $(6\frac{1}{2}, -\frac{3}{4})$

c. $(2, \frac{1}{2})$

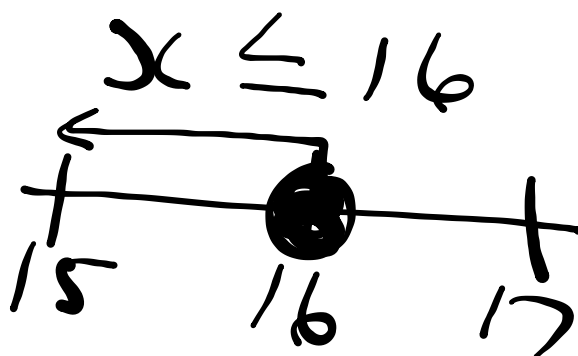
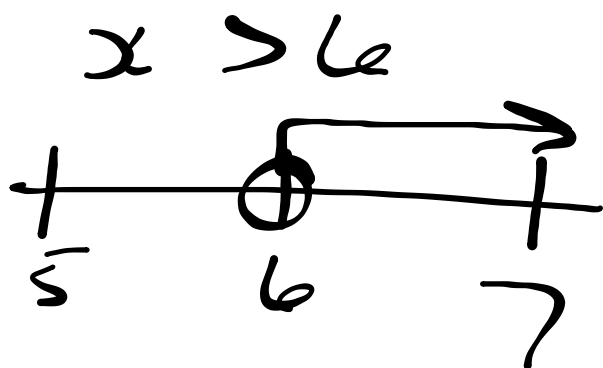
d. The solution set is infinite. The two equations in the system are equivalent.

e. The solution set is infinite. The two equations in the system are equivalent.

How would you graph $y = 2x - 1$?



x	y
1	1
3	5
4	
5	1
6	



$$y > 2x - 1 \quad \dots \text{dotted line}$$
$$y \leq 3x + 2 \quad \text{solid line}$$

How would you graph $y \geq 2x - 1$?

1st

graph $y = 2x - 1$

x	0	1	2	3	4
y	-1	1	3	5	7

2nd

test a point
NOT on the line

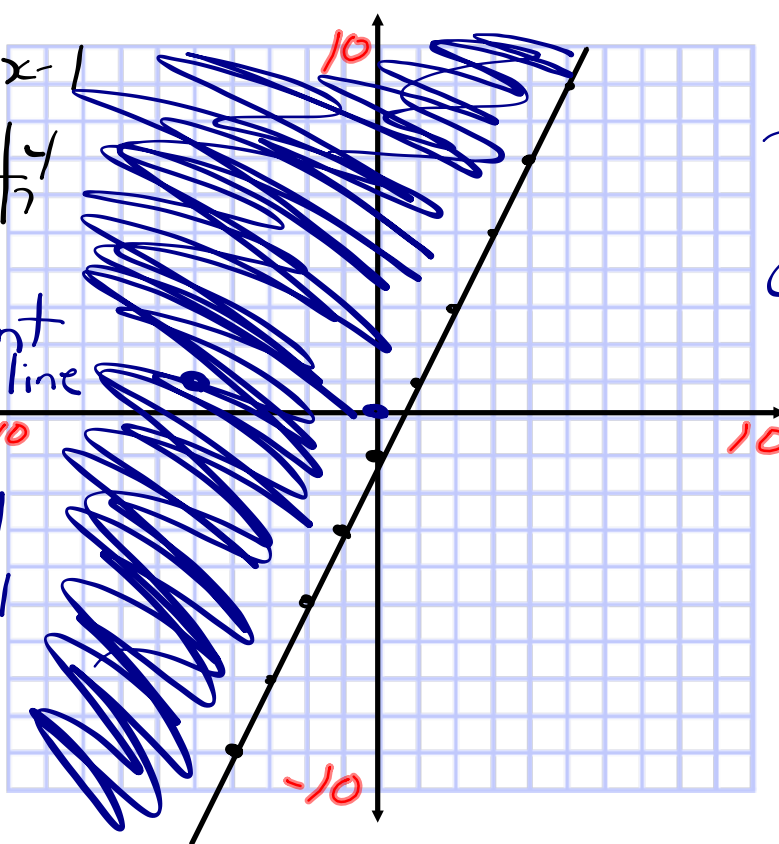
$(0,0)$

$$y \geq 2x - 1$$

$$0 \geq 2(0) - 1$$

$$0 \geq -1$$

True



Test $(-5,1)$

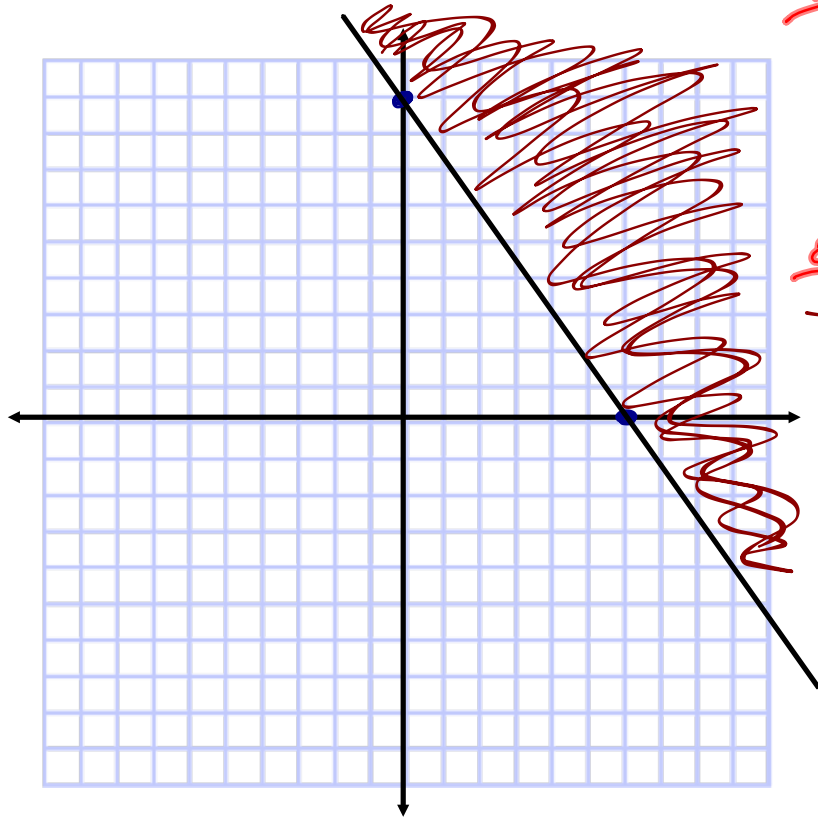
$$y \geq 2x - 1$$

$$1 \geq 2(-5) - 1$$

$$1 \geq -10 - 1$$

$$1 \geq -11$$

How would you graph $3x + 2y \geq 18$



1st

x	y
0	9
6	0

end

test (0,0)

$$3(0) + 2(0) \geq 18$$

$$0 \geq 18$$

False

\leq or \geq solid line
 $<$ or $>$ dotted line

*Note these rules are similar to the open circle or closed circle used when graphing one variable inequalities on a number line.

$x > 3$?