8.7 Practice Problems

1. Graph the inequality. $y \geq 2x+3$

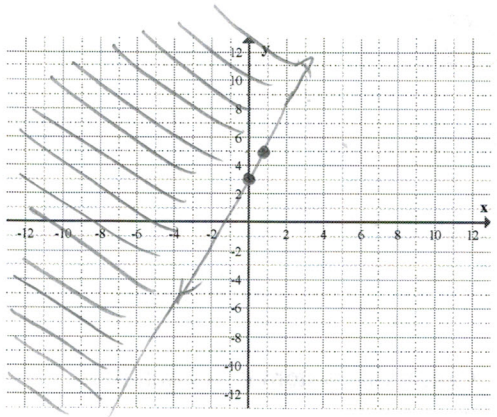
$y = 2x+3$

$m = 2 \quad (0,3)$

test point $(0,0)$

$0 \geq 2(0)+3$

$0 \geq 3$ False



2. Graph the inequality. $4x-5y \leq 20$

$4x-5y=20$

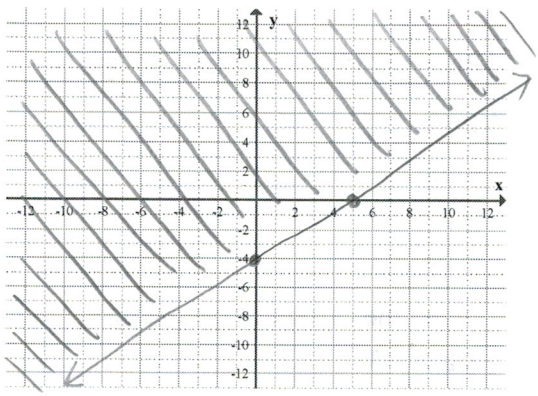
x	y
0	-4
5	0

test point $(0,0)$

$4(0)-5(0) \leq 20$

$0 \leq 20$

True



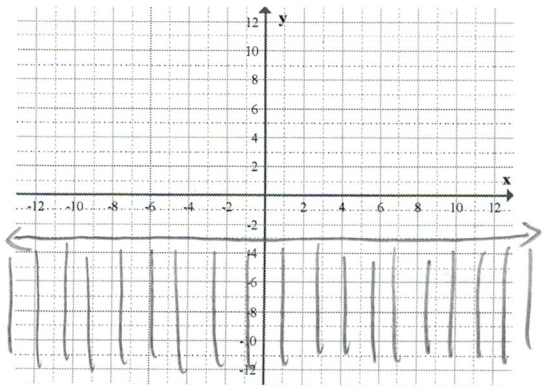
3. Graph the inequality. $y \leq -3$

$y = -3$

test point $(0,0)$

$0 \leq -3$

False



4. Graph the inequality. $x^2+y^2 \leq 16$

$x^2+y^2=16$

circle

center $(0,0)$

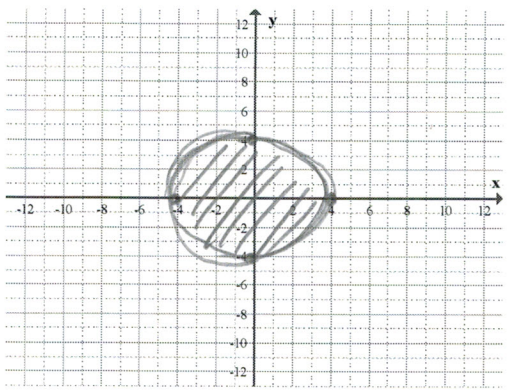
radius $= 4$

Test point $(0,0)$

$0^2+0^2 \leq 16$

$0 \leq 16$

True



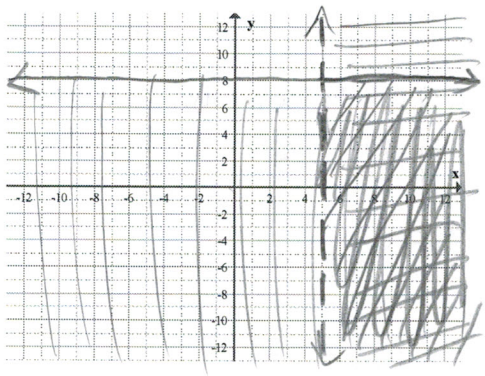
5. Graph the system of inequalities.

$$\begin{cases} x>5 \\ y\le 8 \end{cases}$$

$x=5$ $\quad y=8$

test point (0,0)

$0>5$ False $\quad 0\le 8$ true



6. Graph the system of inequalities.

$$\begin{cases} y\le -\frac{2}{3}x-2 \\ 3x-5y\le 15 \end{cases}$$

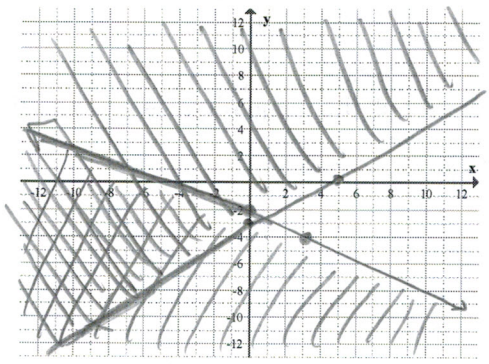
$y=-\frac{2}{3}x-2$

$m=-\frac{2}{3}$

y-int (0,-2)

$3x-5y=15$

x	y
0	-3
5	0



7. Graph the system of inequalities.

$$\begin{cases} y\ge x^2-3 \\ x^2+y^2\le 9 \end{cases}$$

test point (0,0)

$0\ge 0^2-3$

$0\ge -3$

true

$0^2+0^2\le 9$

$0\le 9$

True