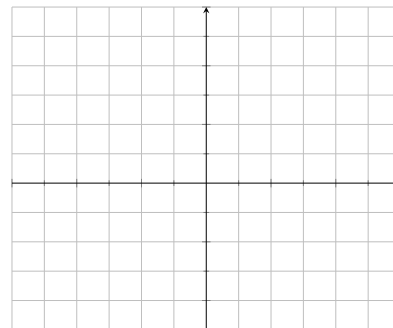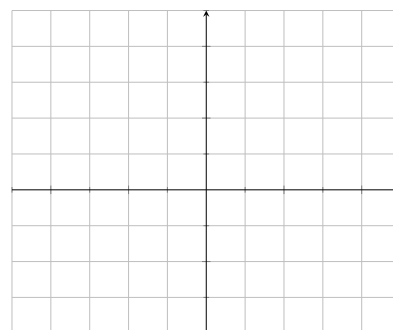**MAT 171 - CLASS NOTES - Section 8.5: Systems of Inequalities**

Graph the following:
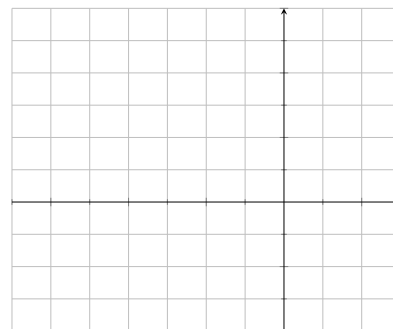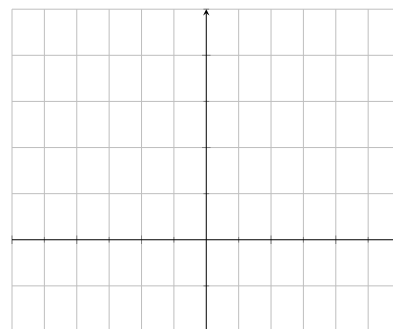
1) $3x - 6y \leq 12$

2) $x \leq -3$

3) $(x + 2)^2 + (y - 1)^2 < 16$
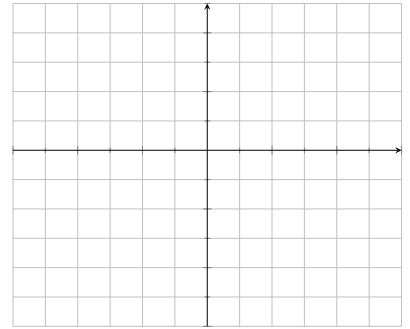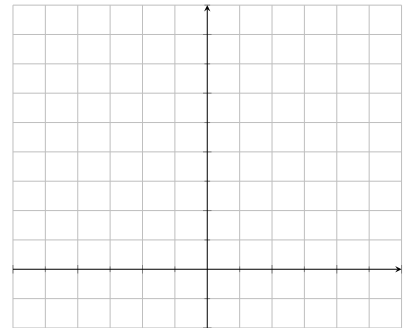
4) $y > x^2 - 1$

5)

$$\begin{cases} 2x - y \leq 4 \\ 3x + 2y > -6 \end{cases}$$
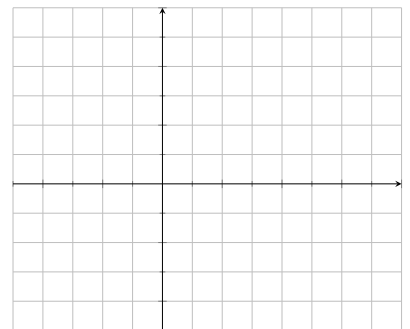
6)

$$\begin{cases} 4x - 5y \geq -20 \\ x \geq -3 \end{cases}$$

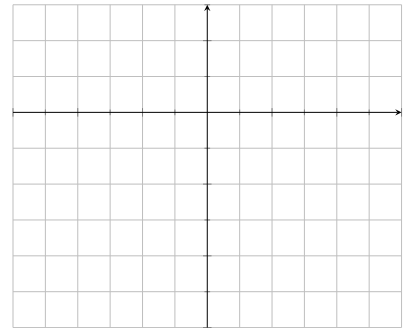7)

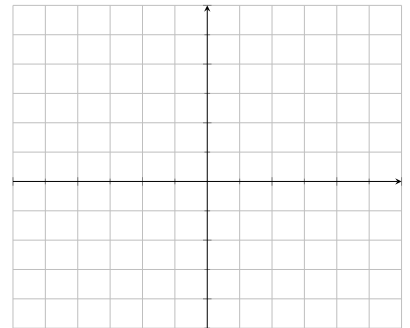$$\begin{cases} x + y > 3 \\ x + y > -2 \end{cases}$$

2

8)

$$\{y \geq x^2 - 4$$

9)

$$\begin{cases} (x + (y-1)^2 < 16 \\ (x + (y-1)^2 \geq \quad 4 \end{cases}$$

10)

$$\begin{cases} 2x + y & \leq & 6 \\ x + y & > & 2 \\ & +1 \leq x \leq 2 \\ y & < & 3 \end{cases}$$

3