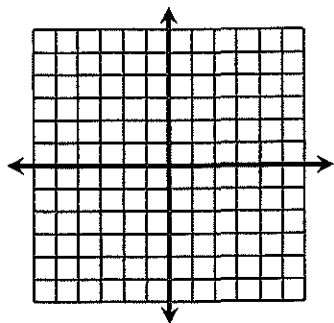
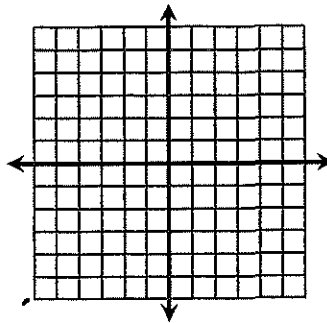


Solve each system of inequalities by graphing.

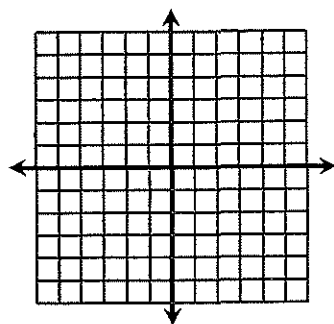
$$1. \begin{cases} y > -x + 4 \\ y \leq x + 2 \end{cases}$$



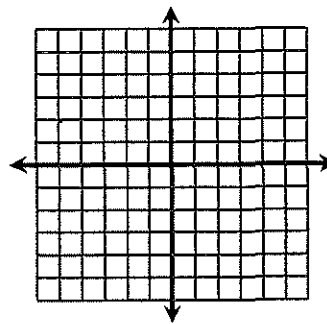
$$2. \begin{cases} y < -\frac{1}{2}x - 3 \\ y \geq \frac{2}{3}x - 3 \end{cases}$$



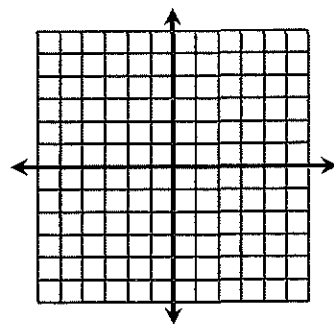
$$3. \begin{cases} y + 3 \leq 2x \\ x \leq 3 \end{cases}$$



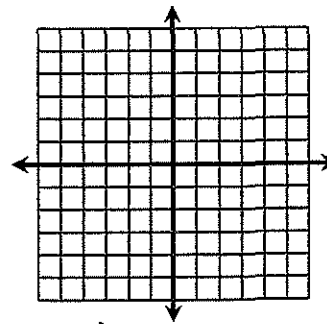
$$4. \begin{cases} y \geq x + 1 \\ y - x > -2 \end{cases}$$



$$5. \begin{cases} y < -2x + 4 \\ y < 3 \end{cases}$$

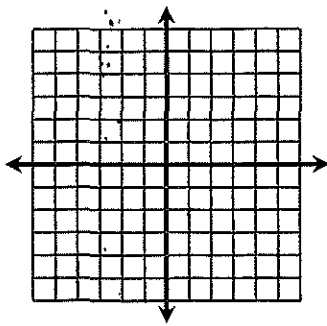


$$6. \begin{cases} y - x \leq 4 \\ -2x + y \geq 4 \end{cases}$$

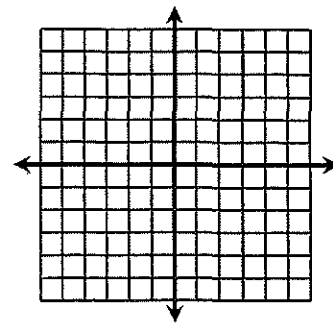


Find the coordinates of the vertices of the figure formed by each system of inequalities.

7.
$$\begin{cases} y \geq -4 \\ y \leq 2x + 2 \\ 2x + y \leq 6 \end{cases}$$

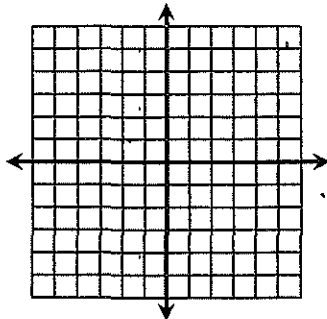


8.
$$\begin{cases} y \geq -3 \\ x \leq 6 \\ y \geq x - 2 \\ 2y \leq x + 5 \end{cases}$$



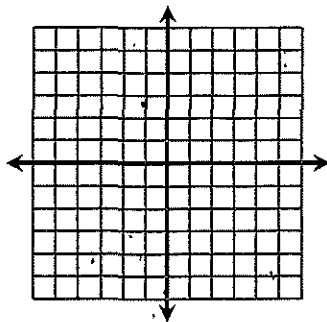
9. Find the area of the region defined by the system of inequalities

$$\begin{cases} y + x \leq 3 \\ y - x \leq 3 \\ y \geq -1 \end{cases}$$



10. Find the area of the region defined by the system of inequalities

$$\begin{cases} x \geq -3 \\ y + x \leq 8 \\ y - x \geq -2 \end{cases}$$



11. The drama club is selling tickets to its play. An adult ticket costs \$15 and a student ticket costs \$11. The auditorium will seat 300 ticket-holders. The drama club wants to collect at least \$3630 from ticket sales.

a) Write and graph a system of four inequalities that describes how many of each type of ticket the club must sell to meet its goal.

b) List three different combinations of tickets sold that satisfy the inequalities.

