EXERCISES

Find the x-intercept and y-intercept. Graph each equation.

1. $x-y=3$
2. $x+2y=4$
3. $x-2y=4$
4. $2x-y=6$
5. $2x+5y=16$
6. $4x+5y=20$
7. $4x-5y=10$
8. $4x-2y=7$
9. $4x+6y=9$
10. $y=4x+2$
11. $-2x+y=1$
12. $y=\frac{1}{2}x+4$

Graph each inequality.

13. $x-y>3$
14. $x-y\le 3$
15. $x+2y<4$
16. $x+2y\ge 4$
17. $-2x+y<4$
18. $-2x+y>4$
19. $3x-5y>15$
20. $3x-5y\le 15$
21. $-4x-y>2$
22. $4x-y>-2$
23. $-2x+5y\ge 12$
24. $-2x+5y\le 12$

Solve each system of equations by graphing.

25. $\begin{cases} y=x-1 \\ y=-x+3 \end{cases}$
26. $\begin{cases} y=x+2 \\ y=-x+4 \end{cases}$
27. $\begin{cases} x+y=5 \\ x-y=1 \end{cases}$
28. $\begin{cases} x-y=6 \\ 3x+y=10 \end{cases}$
29. $\begin{cases} 3a-b=-7 \\ 2a+b=-3 \end{cases}$
30. $\begin{cases} 2x+y=7 \\ -x-2y=1 \end{cases}$
31. $\begin{cases} x+2y=4 \\ 2x+4y=8 \end{cases}$
32. $\begin{cases} m+2n=4 \\ 2m+4n=10 \end{cases}$
33. $\begin{cases} 2x-5y=10 \\ 4x-10y=4 \end{cases}$
34. $\begin{cases} 2x-5y=2 \\ 4x-10y=4 \end{cases}$
35. $\begin{cases} 6s-2t=-5 \\ 4s-\frac{1}{2}t=0 \end{cases}$
36. $\begin{cases} y=-\frac{1}{3}x+\frac{1}{6} \\ 4x-8y=12 \end{cases}$

Solve each system of inequalities by graphing. Indicate the solution set with crosshatching lines or shading.

37. $\begin{cases} x+y\ge 2 \\ x-y\le 1 \end{cases}$
38. $\begin{cases} 2x-y\le 4 \\ x\le 3 \end{cases}$
39. $\begin{cases} 2x-y\ge 4 \\ 3x+4y<12 \end{cases}$
40. $\begin{cases} 5x-4y\ge -20 \\ 5x+4y\ge 20 \end{cases}$
41. $\begin{cases} 2x+3y>0 \\ 2x-3y\le -6 \end{cases}$
42. $\begin{cases} 4x+5y\le 20 \\ 4x+5y\ge 10 \end{cases}$
43. $\begin{cases} y<-1 \\ x>3 \end{cases}$
44. $\begin{cases} 5x+y>5 \\ 2x-y>-4 \end{cases}$
45. $\begin{cases} y<2x+4 \\ y>2x-5 \end{cases}$