

Practice 3-1**Graphing Systems of Equations**

Classify each system without graphing.

1. $\begin{cases} x + y = 3 \\ y = 2x - 3 \end{cases}$
2. $\begin{cases} 2x + y = 3 \\ y = -2x - 1 \end{cases}$
3. $\begin{cases} x + 3y = 9 \\ -2x - 6y = -18 \end{cases}$
4. $\begin{cases} x + y = 4 \\ y = 2x + 1 \end{cases}$
5. $\begin{cases} x + 3y = 9 \\ 9y + 3x = 27 \end{cases}$
6. $\begin{cases} x + 2y = 5 \\ 2x + 3y = 9 \end{cases}$
7. $\begin{cases} 3x + 2y = 7 \\ 3x - 15 = -6y \end{cases}$
8. $\begin{cases} x + y = 6 \\ 3x + 3y = 3 \end{cases}$
9. $\begin{cases} x + y = 11 \\ y = x - 5 \end{cases}$
10. $\begin{cases} x + 2y = 13 \\ 2y = 7 - x \end{cases}$
11. $\begin{cases} y = 12 - 5x \\ x - 4y = -6 \end{cases}$
12. $\begin{cases} 25x - 10y = 0 \\ 2y = 5x \end{cases}$

13. The spreadsheet below shows the monthly income and expenses for a new business.

- a. Find a linear model for monthly income and a linear model for monthly expenses.
- b. Use the models to estimate the month in which income will equal expenses.

	A	B	C
1	Month	Income	Expenses
2	May	\$2000	\$22,000
3	June	\$3000	\$18,000
4	July	\$5000	\$16,000
5	August	\$8000	\$14,000

*Show any work
solving for y
(y = mx + b) on
graph paper*

Solve each system by graphing. Check your answers.

14. $\begin{cases} y = x - 2 \\ x + y = 10 \end{cases}$
15. $\begin{cases} y = 7 - x \\ x + 3y = 11 \end{cases}$
16. $\begin{cases} x - 2y = 10 \\ y = x - 11 \end{cases}$
17. $\begin{cases} 5x + y = 11 \\ x - y = 1 \end{cases}$
18. $\begin{cases} x + y = -1 \\ x - y = 3 \end{cases}$
19. $\begin{cases} x - y = -1 \\ 2x + 2y = 10 \end{cases}$
20. $\begin{cases} 4x + 3y = -16 \\ -x + y = 4 \end{cases}$
21. $\begin{cases} y = -3x \\ x + y = 2 \end{cases}$
22. $\begin{cases} y = \frac{2}{3}x - 5 \\ y = -\frac{2}{3}x - 3 \end{cases}$
23. $\begin{cases} y = \frac{1}{2}x + 3 \\ y = -\frac{1}{4}x - 3 \end{cases}$
24. $\begin{cases} 2x - 4y = -4 \\ 3x - y = 4 \end{cases}$
25. $\begin{cases} x + y = 6 \\ x - y = 4 \end{cases}$

*Solve 1-25 odd by graphing
by hand. (Skip #13)*