3.3 Solving Systems of Equations by Graphing

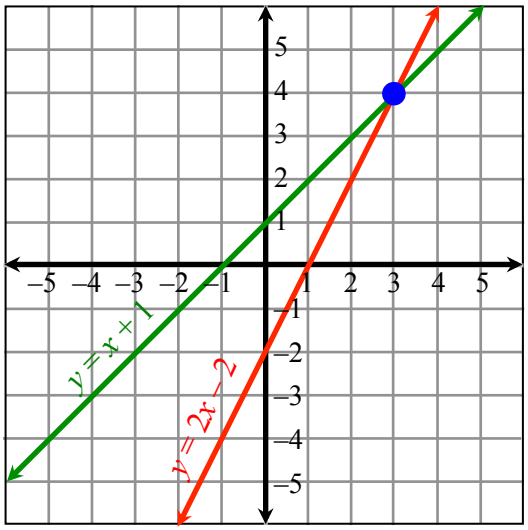
Solutions

Solve by graphing. State the system solution category.

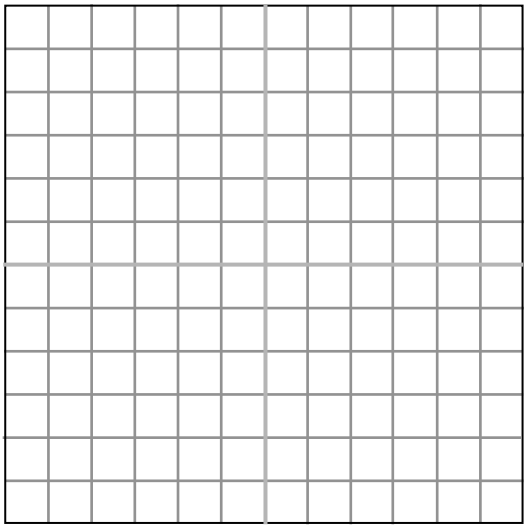
1. $\begin{cases} y = 2x - 2 \\ y = x + 1 \end{cases}$

System solution: {(3, 4)}

Solution category: consistent and independent



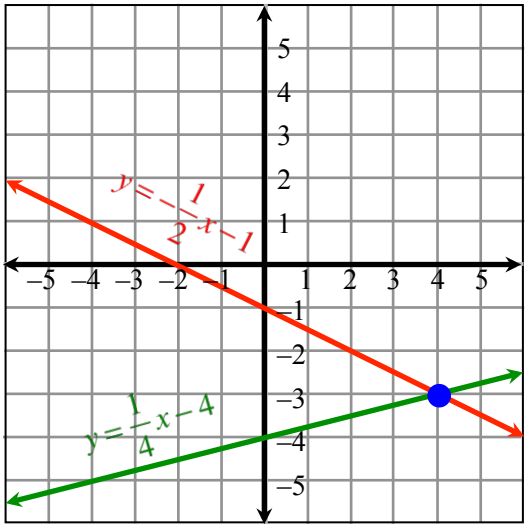
2. $\begin{cases} y = 4x + 3 \\ y = -x - 2 \end{cases}$



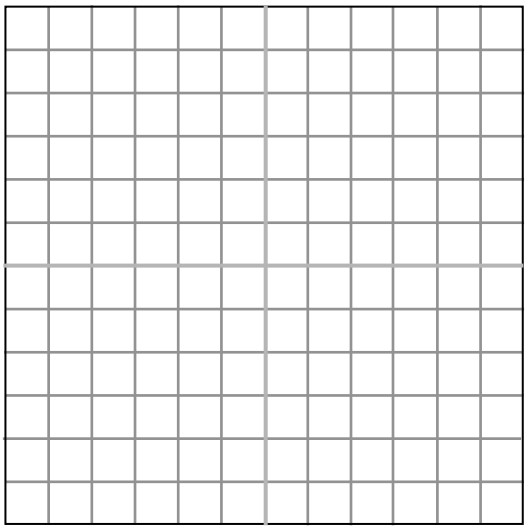
3. $\begin{cases} y = -\frac{1}{2}x - 1 \\ y = \frac{1}{4}x - 4 \end{cases}$

System solution: {(4, –3)}

Solution category: consistent and independent



4. $\begin{cases} y = 3x - 4 \\ y = -\frac{1}{2}x + 3 \end{cases}$



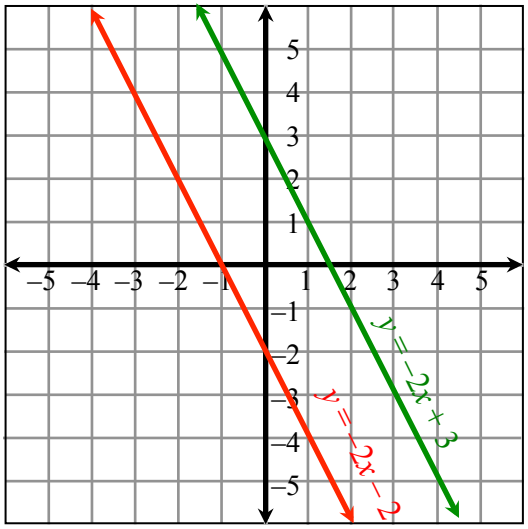
Answers: **1**. {(3, 4)}, consistent and independent; **3**. {(4, –3)}, consistent and independent

Solve by graphing. State the system solution category.

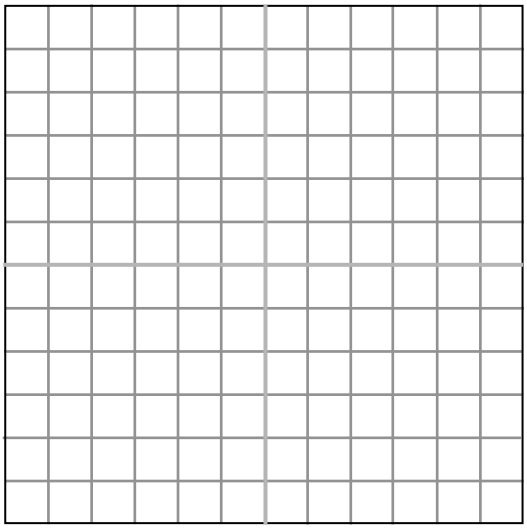
5. $\begin{cases} y = -2x - 2 \\ y = -2x + 3 \end{cases}$

System solution: $\varnothing$

Solution category: inconsistent



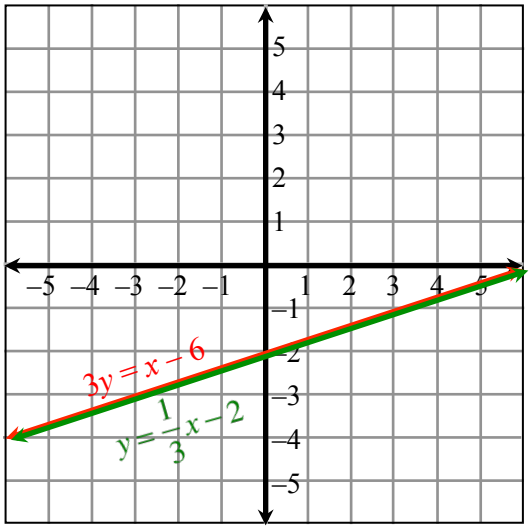
6. $\begin{cases} y = x - 5 \\ y = x + 1 \end{cases}$



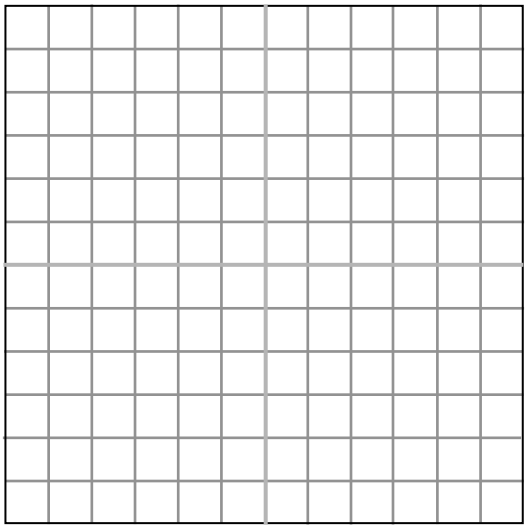
7. $\begin{cases} 3y = x - 6 \\ y = \frac{1}{3}x - 2 \end{cases}$

System solution: $\{(x, y) \mid y = \frac{1}{3}x - 2\}$

Solution category: consistent and dependent



8. $\begin{cases} -4y = x - 4 \\ y = -\frac{1}{4}x + 1 \end{cases}$



Answers: **5.** $\varnothing$, inconsistent; **7.** $\{(x, y) \mid y = \frac{1}{3}x - 2\}$, consistent and dependent