Solving Systems by Equivalent Forms Method

Decide whether it is easier to write each equation in equivalent \( y = mx + b \) form or equivalent \( x = ky + c \) form. Then, write each equation in the form you chose.

1. \( x + y = 3 \)
2. \( x - y = -5 \)
3. \( 2x + y = -1 \)
4. \( x - 2y = 8 \)
5. \( 9x + 6y = 12 \)
6. \( -x + 4y = 10 \)
7. In parts (1)–(6), how did you decide which form to use?

Solve each system by writing the equations in \( y = mx + b \) or \( x = ky + c \) form and then using the Equivalent Forms method.

1. \[
\begin{align*}
  x + y &= 3 \\
  x - y &= -5
\end{align*}
\]
2. \[
\begin{align*}
  3x - y &= 30 \\
  x + y &= 14
\end{align*}
\]
3. \[
\begin{align*}
  x + 6y &= 15 \\
  -x + 4y &= 5
\end{align*}
\]
4. \[
\begin{align*}
  x - y &= -5 \\
  -2x + 2y &= 10
\end{align*}
\]

8. What do you notice about the systems that makes this method a good one to use?

9. Describe the steps needed in using this method to solve a system.

10. What does it mean for two equations to be equivalent?

11. What does it mean to solve a linear system?