Solve each system of linear equations using the elimination method.

1. \(3x + 2y = 18\)
   \(2x + 3y = 22\)

2. \(5x + y = 8\)
   \(x + 3y = 10\)

3. \(\frac{1}{2}a + b = 7\)
   \(a + 3b = 19\)

Solve each system of linear equations using the substitution method.

4. \(a + 2b = 1\)
   \(2a + b = 8\)

5. \(2x + 11y = 15\)
   \(x - y = 1\)

6. \(\frac{1}{2}x + \frac{1}{2}y = 7\)
   \(3x - y = 22\)
Solve each system of linear equations using the graphical method.
Square to represent 1 unit on both axes for the interval −3 to 8.

7 \[ \begin{align*} 2x + 3y &= 24 \\ 2x + y &= 12 \end{align*} \]

8 \[ \begin{align*} 2x + 5y &= 1 \\ 3x - y &= -7 \end{align*} \]

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Solve each system of linear equations. Explain your choice of method.

10 \[ \begin{align*} x &= 4y - 1 \\ 2x - 6y &= -1 \end{align*} \]

11 \[ \begin{align*} 3x - 14y &= -49 \\ 5x + 2y &= 45 \end{align*} \]

12 \[ \begin{align*} x - \frac{1}{3}y &= 6 \\ 2x + y &= 2 \end{align*} \]
20) The sum of two numbers is 4 and their difference is 12. What are the two numbers?