Solving Systems of Linear Equations by Graphing

Solving Systems of Li

1.
$$y = \frac{2}{3}x + 6$$
 $-\frac{2}{3}x + y = 6$
 $-\frac{2}{(3)(6)}x + \frac{y}{6} = \frac{6}{6}$
 $\frac{x}{-9} + \frac{y}{6} = 1$
 $a_1 = -9$
 $b_1 = 6$
 $y = -\frac{3}{2}x + 6$
 $\frac{3}{(2)(6)}x + \frac{y}{6} = \frac{6}{6}$
 $\frac{3}{(2)(6)}x + \frac{y}{6} = \frac{6}{6}$
 $\frac{x}{4} + \frac{y}{6} = 1$
 $a_2 = 4$
 $a_2 = 4$

4.
$$\frac{x}{8} + \frac{4y}{8} = \frac{8}{8} \checkmark$$
 $\frac{x}{8} + \frac{y}{2} = 1 \checkmark$
 $\frac{a_1 = 8}{2} \checkmark$
 $\frac{b_1 = 2}{2} \checkmark$
 $\frac{x}{2} - \frac{2y}{2} = \frac{2}{2} \checkmark$
 $\frac{x}{2} + \frac{y}{-1} = 1 \checkmark$
 $\frac{a_2 = 2}{2} \checkmark$
 $\frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark$

 $\frac{3x}{6} + \frac{2y}{6} = \frac{6}{6}$ $\frac{x}{2} + \frac{y}{3} = 1$

 $a_2 = 2$ $b_2 = 3 \checkmark$

2.
$$\frac{x}{7} + \frac{y}{7} = \frac{7}{7} \checkmark$$

$$\frac{x}{7} + \frac{y}{7} = 1 \checkmark$$

$$a_{1} = 7 \checkmark$$

$$b_{1} = 7 \checkmark$$

$$x - y = 1 \checkmark$$

$$x + \frac{y}{-1} = 1 \checkmark$$

$$b_{2} = -1 \checkmark$$

$$b_{2} = -1 \checkmark$$
3.
$$\frac{4x}{8} - \frac{y}{8} = \frac{8}{8} \checkmark$$

$$\frac{x}{2} + \frac{y}{-8} = 1 \checkmark$$

$$a_{1} = 2 \checkmark$$

$$b_{1} = -8 \checkmark$$

5.
$$\frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark$$

$$\frac{x}{5} + \frac{y}{5} = 1 \checkmark$$

$$a_1 = 5 \checkmark$$

$$b_1 = 5 \checkmark$$

$$y = 5x + \frac{1}{2} \checkmark$$

$$2 \left[-5x + y = \frac{1}{2} \right] \checkmark$$

$$-10x + 2y = 1 \checkmark$$

$$\frac{x}{-\frac{1}{10}} + \frac{y}{\frac{1}{2}} = 1 \checkmark$$

$$a_2 = -\frac{1}{10} \checkmark$$

$$b_2 = \frac{1}{2} \checkmark$$

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 $y = -\frac{3}{2}x + 6$
 $\boxed{\frac{3}{(2)(6)}x + \frac{y}{6} = \frac{6}{6}}$
 $\boxed{\frac{x}{4} + \frac{y}{6} = 1}$
 $\boxed{b_2 = 4}$
 $\boxed{b_2 = 6}$
 $\boxed{2}$
 $\boxed{\frac{x}{7} + \frac{y}{7} = \frac{7}{7}}$
 $\boxed{\frac{x}{7} + \frac{y}{7} = 1}$

$$\begin{vmatrix} a_{2} - z \\ b_{2} = 3 \end{vmatrix} \checkmark$$

$$4. \frac{x}{8} + \frac{4y}{8} = \frac{8}{8} \checkmark$$

$$\frac{x}{8} + \frac{y}{2} = 1 \checkmark$$

$$\begin{vmatrix} a_{1} = 8 \\ b_{1} = 2 \end{vmatrix} \checkmark$$

$$\frac{x}{2} - \frac{2y}{2} = \frac{2}{2} \checkmark$$

$$\frac{x}{2} + \frac{y}{-1} = 1 \checkmark$$

$$\begin{vmatrix} a_{2} = 2 \\ b_{2} = -1 \end{vmatrix} \checkmark$$

$$5. \frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark$$

 $\frac{3x}{6} + \frac{2y}{6} = \frac{6}{6}$ $\frac{x}{2} + \frac{y}{3} = 1$ $\boxed{a_2 = 2}$

2.
$$\frac{x}{7} + \frac{y}{7} = \frac{7}{7} \checkmark$$

$$\frac{x}{7} + \frac{y}{7} = 1 \checkmark$$

$$a_{1} = 7 \checkmark$$

$$b_{1} = 7 \checkmark$$

$$x - y = 1 \checkmark$$

$$x + \frac{y}{-1} = 1 \checkmark$$

$$b_{2} = -1 \checkmark$$
3.
$$\frac{4x}{8} - \frac{y}{8} = \frac{8}{8} \checkmark$$

$$\frac{x}{2} + \frac{y}{-8} = 1 \checkmark$$

$$a_{1} = 2 \checkmark$$

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5.
$$\frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark$$

$$\frac{x}{5} + \frac{y}{5} = 1 \checkmark$$

$$a_1 = 5 \checkmark$$

$$b_1 = 5 \checkmark$$

$$2 \left[-5x + y = \frac{1}{2} \right] \checkmark$$

$$-10x + 2y = 1 \checkmark$$

$$\frac{x}{-\frac{1}{10}} + \frac{y}{\frac{1}{2}} = 1 \checkmark$$

$$a_2 = -\frac{1}{10} \checkmark$$

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2. $\frac{x}{7} + \frac{y}{7} = \frac{7}{7}$
 $\frac{x}{7} + \frac{y}{7} = 1$
 $\frac{x$

 $a_2 = 1$

 $b_2 = -1$

3. $\frac{4x}{8} - \frac{y}{8} = \frac{8}{8} \checkmark$ $\frac{x}{2} + \frac{y}{-8} = 1 \checkmark$

 $a_1 = 2$ $b_1 = -8$

$$\frac{3x}{6} + \frac{2y}{6} = \frac{6}{6} \checkmark$$

$$\frac{x}{2} + \frac{y}{3} = 1 \checkmark$$

$$\boxed{b_2 = 3} \checkmark$$

$$4x + \frac{4y}{3} = \frac{8}{3} \checkmark$$

4.
$$\frac{x}{8} + \frac{4y}{8} = \frac{8}{8} \checkmark$$
 $\frac{x}{8} + \frac{y}{2} = 1 \checkmark$
 $a_1 = 8 \checkmark$
 $b_1 = 2 \checkmark$
 $\frac{x}{2} - \frac{2y}{2} = \frac{2}{2} \checkmark$
 $\frac{x}{2} + \frac{y}{-1} = 1 \checkmark$
 $a_2 = 2 \checkmark$
 $a_2 = 2 \checkmark$

5.
$$\frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark$$

$$\frac{x}{5} + \frac{y}{5} = 1 \checkmark$$

$$b_1 = 5 \checkmark$$

$$y = 5x + \frac{1}{2} \checkmark$$

$$2 \left[-5x + y = \frac{1}{2} \right] \checkmark$$

$$-10x + 2y = 1 \checkmark$$

$$\frac{x}{-\frac{1}{10}} + \frac{y}{\frac{1}{2}} = 1 \checkmark$$

$$b_2 = \frac{1}{2} \checkmark$$

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 $\frac{x}{4} + \frac{y}{6} = 1$
 $a_2 = 4$
 $b_2 = 6$
 $x = y = 7$

$$\frac{3x}{6} + \frac{2y}{6} = \frac{6}{6} \checkmark$$

$$\frac{x}{2} + \frac{y}{3} = 1 \checkmark$$

$$\boxed{b_2 = 3} \checkmark$$

$$4. \quad \frac{x}{8} + \frac{4y}{8} = \frac{8}{8} \checkmark$$

$$\frac{x}{8} + \frac{y}{2} = 1 \checkmark$$

$$\boxed{b_1 = 2} \checkmark$$

$$\boxed{b_1 = 2} \checkmark$$

$$\frac{x}{2} - \frac{2y}{2} = \frac{2}{2} \checkmark$$

$$\frac{x}{2} + \frac{-1}{-1} = 1 \checkmark$$

$$\boxed{b_2 = -1} \checkmark$$

$$\begin{vmatrix} b_2 = 6 \end{vmatrix} \checkmark$$
2.
$$\frac{x}{7} + \frac{y}{7} = \frac{7}{7} \checkmark$$

$$\frac{x}{7} + \frac{y}{7} = 1 \checkmark$$

$$a_1 = 7 \checkmark$$

$$b_1 = 7 \checkmark$$

$$x - y = 1 \checkmark$$

$$x + \frac{y}{-1} = 1 \checkmark$$

$$b_2 = -1 \checkmark$$
3.
$$\frac{4x}{8} - \frac{y}{8} = \frac{8}{8} \checkmark$$

$$\begin{array}{c|c}
b_2 = -1 & \checkmark \\
5. & \frac{x}{5} + \frac{y}{5} = \frac{5}{5} \checkmark \\
& \frac{x}{5} + \frac{y}{5} = 1 \checkmark \\
\hline
b_1 = 5 & \checkmark \\
y = 5x + \frac{1}{2} \checkmark \\
2 \left[-5x + y = \frac{1}{2} \right] \checkmark \\
-10x + 2y = 1 \checkmark \\
& \frac{x}{-\frac{1}{10}} + \frac{y}{\frac{1}{2}} = 1 \checkmark \\
\hline
b_2 = \frac{1}{2} \checkmark
\end{array}$$

$$\begin{vmatrix} a_2 = 1 \end{vmatrix} \checkmark$$

$$b_2 = -1 \end{vmatrix} \checkmark$$
3.
$$\frac{4x}{8} - \frac{y}{8} = \frac{8}{8} \checkmark$$

$$\frac{x}{2} + \frac{y}{-8} = 1 \checkmark$$

$$\begin{vmatrix} a_1 = 2 \end{vmatrix} \checkmark$$

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