

For each of the following problems, solve for x , y , and z if possible. Use *elimination* rather than substitution. If a unique solution is not possible, say whether the system has infinitely many solutions or is inconsistent (that is, has no solutions).

$$\begin{aligned} \boxed{1} \quad & 2x - 3y = -1 \\ & 4x + 6y = 6 \end{aligned}$$

$$\begin{aligned} \boxed{2} \quad & 3x - y = 8 \\ & 2x + 3y = 9 \end{aligned}$$

$$\begin{aligned} \boxed{3} \quad & 2x - y = 6 \\ & 4x - 2y = 12 \end{aligned}$$

$$\begin{aligned} \boxed{4} \quad & 2x - y = 6 \\ & 4x - 2y = 2 \end{aligned}$$

$$\begin{aligned} \boxed{5} \quad & x + 2y = 11 \\ & 4x - y = -1 \end{aligned}$$

$$\begin{aligned} \boxed{6} \quad & x - 2y + 4z = 6 \\ & -2x + 3y - 6z = -14 \\ & 3x + y - z = -1 \end{aligned}$$

$$\begin{aligned} \boxed{7} \quad & x + y + z = 4 \\ & x - y - 2z = 6 \\ & x + 5y + 9z = 12 \end{aligned}$$

$$\begin{aligned} \boxed{8} \quad & x + y + z = 4 \\ & x - y - 2z = 6 \\ & x + 5y + 7z = 12 \end{aligned}$$

Answers:

$\boxed{1}$ $(x, y) = (1/2, 1)$ $\boxed{2}$ $(x, y) = (3, 1)$ $\boxed{3}$ $y = 2x - 6$
 $\boxed{4}$ inconsistent $\boxed{5}$ $(x, y) = (1, 5)$ $\boxed{6}$ $(z, y, x) = (8, -10, 9)$ inconsistent
 $\boxed{7}$ $(x, y, z) = (8, -10, 9)$ inconsistent $\boxed{8}$ inconsistent