EXTRA PRACTICE — Exercises

Unit IV – First Degree Relations with Three or More Placeholders
Part B – Special Cases
Lesson 1 – No Solution - Inconsistent

Solve each of the following systems, and classify them as consistent or inconsistent.

1. $\begin{aligned} \frac{1}{4}x - \frac{2}{3}y + z &= -5 \\ 2x \qquad\quad - z &= 17 \\ x + \frac{1}{3}y + 2z &= 9 \end{aligned}$

2. $\begin{aligned} x - y + 2z &= 2 \\ x + 2y - z &= 1 \\ 2x + y + z &= 4 \end{aligned}$

3. $\begin{aligned} x - 2y + z &= 4 \\ y - z &= 0 \\ -2x + 4y - 2z &= 8 \end{aligned}$

4. $\begin{aligned} x - \frac{4}{3}y - \frac{1}{3}z &= 1 \\ y + z &= 6 \\ -2x - \frac{5}{3}y \qquad &= 4 \end{aligned}$

5. $\begin{aligned} x + y + z &= 2 \\ x + y + z &= 3 \\ 2x + 2y + 2z &= 9 \end{aligned}$

6. $\begin{aligned} 2x - y + 4z &= 2 \\ -x + 6y - 9z &= 0 \\ 3x + 4y - z &= 1 \end{aligned}$

EXTRA PRACTICE — Answer Key

Unit IV – First Degree Relations with Three or More Placeholders
Part B – Special Cases
Lesson 1 – No Solution - Inconsistent

Solve each of the following systems, and classify them as consistent or inconsistent.

1. S = {(8, 9, $^{-}$1}
   Consistent System

2. S = { }
   0 = 1 False Statement
   Indicates a contradiction in the system.
   Inconsistent System

3. S = { }
   0 = 16 False Statement
   Indicates a contradiction in the system.
   Inconsistent System

4. S = {(0, $^{-}$3, 9)}
   $x = 0$
   Consistent System

5. S = { }
   0 = 1 False Statement
   Indicates a contradiction in the system.
   Inconsistent System

6. S = { }
   0 = $^{-}$3 False Statement
   Indicates a contradiction in the system.
   Inconsistent System