Unit IV – First Degree Relations with Three or More Placeholders
Part A – Solution Sets
Lesson 3 – System of Three or More Open Sentences (Algebraic Solutions)

Find the solution set for each of the following systems of equations by combining them to temporarily eliminate placeholders.

1. $5x - y + z = 5$
   $3x + y - z = 3$
   $x + 2y - z = 3$

2. $4x - y + z = 7$
   $x - 2y - 3z = 0$
   $x + z = 6$

3. $4x + y - z = {}^-2$
   $x + 3y - 4z = 1$
   $2x - y + 3z = 4$

4. $-x + y - 3z = 2$
   $2x + y + z = 0$
   $5x - 3y + 5z = 6$

5. $5a - 5b + 2c = 13$
   $2a - 4b + 3c = 8$
   $3a + 2b - 4c = 2$

6. $^-4x - 3y = 9$
   $2x + 2y + 7z = 15$
   $4y + 5z = 15$

7. $\dfrac{1}{4}x + \dfrac{1}{2}y + 3z = 2$
   $\dfrac{3}{4}x - \dfrac{3}{2}y - z = 0$
   $\dfrac{1}{2}x + y - 2z = 4$

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Find the solution set for each of the following systems of equations by combining them to temporarily eliminate placeholders.

1. S = {(1, 2, 2)}

2. S = {(⁻8, ⁻25, 14)}

3. S = {(⁻1, 6, 4)}

4. S = {(2, ⁻2, ⁻2)}

5. S = {(4, 3, 4)}

6. $S = \{(\frac{^-42}{17}, \frac{5}{17}, \frac{47}{17})\}$

7. S = {(4, 2, 0)}