Solving Systems with Three Variables

The Approach

Eliminate x from the EQ2 and EQ3

Eliminate y from EQ3

Eliminate z from EQ2 and EQ1

Eliminate y from EQ1

$$x - 2y + z = 5$$

$$2y - 8z = -4$$

$$6x + 5y + 9z = -4$$

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$$6(5 + 2y - z) + 5y + 9z = -4$$

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Eliminate y from EQ3

Eliminate z from EQ2 and EQ1

Eliminate y from EQ1