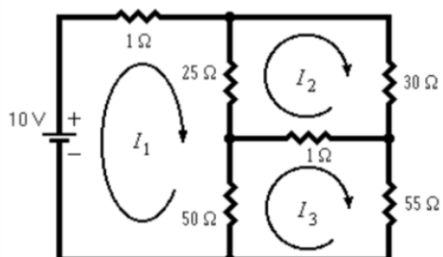# Applying Systems of Equations Quiz

1. Solve the following system of equations using a method of your choice to find $i_1, i_2, and\ i_3$.

$$\begin{cases} 76i_1 - 25i_2 - 50i_3 = 10 \\ -25i_1 + 56i_2 - 1\,i_3 = 0 \\ -50i_1 - 1\,i_2 + 106i_3 = 0 \end{cases}$$

2. Why can systems of equations be used to model an electronic circuit? How did you solve them? Refer to the above diagram to help with your explanation. Explain in two or three sentences. You do not need to set up any equations.