

$$e. \begin{cases} x + y + z = 60 \\ 0.15x + 0.35y + 0.55z = 60(.40) = 24 \\ y - 2z = 0 \end{cases}$$

f. They should use 3.75 L of the 15% solution, 37.5 L of the 35% solution, and 18.75 L of the 55% solution.

2. Similar setup to #1: **14.54 grams of the 22% alloy, 29.09 grams of the 30% alloy, and 36.36 grams of the 42% alloy should be used.**

3. Similar setup to #1 and #4 of Part B: **None of the 10% solution will be used. 28.8 L of the 25% solution and 11.2 L of the 50% solution will be used.**

4.

	A	B	C
X	1	2	2
Y			1
Z	1	1	
Total	12	16	26

$$\begin{cases} x + z = 12 \\ 2x + z = 16 \\ 2x + y = 26 \end{cases}$$

4 liters of Spray X, 18 liters of Spray Y, and 8 liters of Spray Z should be used.

5. Similar setup to #1: **The grocer should mix 10 pounds of sourballs, 20 pounds of butterballs, and 20 pounds of starlight mints.**