$$\left\{\begin{array}{c}a+4b=x\\3a+6b=y\\2a+5b=z\end{array} L\_{2}=L\_{2}-3L\_{1}\rightarrow \left\{\begin{array}{c}a+4b=x\\-6b=y-3x\\2a+5b=z\end{array}\right.\right.$$

$$-6b=y-3x\rightarrow b=\frac{y-3x}{-6}\rightarrow b=\frac{-y+3x}{6} $$

$$3a+6b=y$$

$$3a+6\left(\frac{-y+3x}{6}\right)=y \rightarrow 3a-y+3x=y\rightarrow 3a=y+y-3x$$

$$a=\frac{2y-3x}{3}$$

**Substituindo para incluir Z.**

$$2a+5b=z$$

$$2.\left(\frac{2y-3x}{3}\right)+5\left(\frac{-y+3x}{6}\right)=z\rightarrow \frac{4y-6x}{3}+\frac{\left(-5y\right)+15x}{6}=z .\left(6\right) MMC$$

$$8y-12x-5y+15x=6z$$

$$3x+3y=6z\rightarrow 3x+3y-6z=0$$