

Bellringer 10/12/2016

*Bill is employed by the Flower and Shrub Landscaping Company. His employer sends him to the seed store to buy grass seed which cost \$3 per pound (lb) after tax.*

1. If Bill buys 12 pounds of seed, how much will it cost?

$$12(3) = \$36.00$$

2. If Bill's employer sends \$50, how much change will he expect when Bill returns?

$$\begin{array}{r} 50 \\ - 36 \\ \hline \$ 14.00 \end{array}$$

Matrices

$$\begin{cases} 4x + 5y = 15 \\ x + y = 10 \end{cases}$$

$$\begin{bmatrix} 4 & 5 \\ 1 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 15 \\ 10 \end{bmatrix} \Rightarrow \begin{bmatrix} 4 & 5 \\ 1 & 1 \end{bmatrix} \begin{bmatrix} 15 \\ 10 \end{bmatrix} \Rightarrow$$

rref

$$\begin{bmatrix} 4 & 5 & 15 \\ 1 & 1 & 10 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 35 \\ -25 \end{bmatrix}$$

$$\begin{cases} -x + 2y = 10 \\ 3x + 5y = 15 \end{cases}$$

$$\begin{bmatrix} -1 & 2 \\ 3 & 5 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 10 \\ 15 \end{bmatrix}$$

$$\begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -1 & 2 \\ 3 & 5 \end{bmatrix}^{-1} \begin{bmatrix} 10 \\ 15 \end{bmatrix}$$

$$\begin{bmatrix} -1 & 2 & 10 \\ 3 & 5 & 15 \end{bmatrix}$$

$$\text{ref: } \begin{bmatrix} -20 \\ 11 \\ 45 \\ 11 \end{bmatrix}$$