Denote by C_1 and C_2 vectors of prices in ARPICO and CARGILLS respectively. Then

$$C_1 = \begin{pmatrix} 20 \\ 10 \\ 8 \end{pmatrix}; \quad C_2 = \begin{pmatrix} 15 \\ 8 \\ 6 \end{pmatrix}$$

Let Q denotes vector of amounts needed for Mr. X. Then

$$Q = \begin{pmatrix} 3 \\ 10 \\ 1 \end{pmatrix}$$

Then the total price he pays equals to

$$Q'C_i$$

Thus the difference between total prices in 2 shops equals to

$$Q'C_1 - Q'C_2 = Q'(C_1 - C_2)$$

Calculation:

$$Q'(C_1 - C_2) = (3 \ 10 \ 1)\left[\begin{pmatrix} 20 \\ 10 \\ 8 \end{pmatrix} - \begin{pmatrix} 15 \\ 8 \\ 6 \end{pmatrix}\right] = (3 \ 10 \ 1)\begin{pmatrix} 5 \\ 2 \\ 2 \end{pmatrix} = 15 + 20 + 2 = 37$$

Since travelling to CARGILLS costs Rs 25 net savings equals to

$$37 - 25 = 12$$

ANSWER: Rs 12