

Express in words the configuration of matrix A:

A = STATE OF HEALTH by YEAR IN SCHOOL

Express in words the configuration of matrix B:

B = GENDER by YEAR IN SCHOOL

Solve for the matrix that represents the number of males and the number of females in each of the "state of health" categories. Write and label the resulting matrix.

$$A * B^T = \begin{matrix} & \begin{matrix} M \\ F \end{matrix} \\ \begin{matrix} W \\ S \\ C \end{matrix} & \begin{bmatrix} 35.6 & 41.8 \\ 60.4 & 68.35 \\ 88 & 99.85 \end{bmatrix} \end{matrix} \begin{matrix} \begin{bmatrix} .15 & .25 \\ .35 & .30 \\ .50 & .45 \end{bmatrix} \\ A \end{matrix} \begin{matrix} \begin{bmatrix} 104 & 107 \\ 80 & 103 \end{bmatrix} \\ B^T \end{matrix}$$

How many sick males are there? 60 How many well females? 42

6. As a student with his own lucrative business, selling balloons, Jorge decided to invest his profits in growth stocks. The matrix below represents the number of shares of each type of stock he purchased:

Number of Shares

$$\begin{matrix} \text{Stock A} \\ \text{Stock B} \\ \text{Stock C} \end{matrix} \begin{bmatrix} 300 \\ 450 \\ 120 \end{bmatrix} = A$$

3×1

Express in words the above matrix configuration:

A = TYPE OF STOCK by NUMBER OF SHARES

The matrix below shows the price per share (in dollars) of stocks A, B, and C at the end of 1992, 1993, and 1994.

$$\begin{matrix} & \begin{matrix} 1992 & 1993 & 1994 \end{matrix} \\ \begin{matrix} \text{Stock A} \\ \text{Stock B} \\ \text{Stock C} \end{matrix} & \begin{bmatrix} 78.00 & 89.50 & 92.00 \\ 47.00 & 51.90 & 52.00 \\ 71.00 & 73.50 & 90.50 \end{bmatrix} = B \end{matrix}$$

3×3

Express in words the above matrix configuration:

B = TYPE OF STOCK by YEAR INVESTED

Calculate the total value of Jorge's stock at the end of each year. (Hint: Is A x B possible? NO If not, how could you change A or B to make multiplication possible?) Using matrix notation, express how this can be found. Write and label the resulting matrix.

$$A^T * B = \begin{matrix} \text{no of} \\ \text{SHARES} \end{matrix} \begin{matrix} 1992 & 1993 & 1994 \\ \begin{bmatrix} 53,070 & 59,025 & 61,860 \end{bmatrix} \end{matrix}$$