

**37** (a) These tables can be represented by the matrices  $A$  and  $B$ .

$$A = \begin{bmatrix} 10 & 5 \\ 9 & 8 \\ 11 & 3 \end{bmatrix} \text{ and } B = \begin{bmatrix} 60 \\ 70 \end{bmatrix}$$

(b) The product  $AB$  of these matrices calculates tuition cost for each student.

$$AB = \begin{bmatrix} 10 & 5 \\ 9 & 8 \\ 11 & 3 \end{bmatrix} \begin{bmatrix} 60 \\ 70 \end{bmatrix} = \begin{bmatrix} 950 \\ 1100 \\ 870 \end{bmatrix}$$

The total tuition for Student 1 is  $10(\$60) + 5(\$70) = \$950$ . Similarly the tuition for Student 2 is \$1,100 and for Student 3 is \$870.