Name: _____

Matrices

1) The table gives ticket prices for a concert. Write a 2×3 matrix that represents the cost of a ticket.

	Child	Student	Adult
Cost purchase in advance	6	12	18
Cost purchased at the door	8	15	22

2) Perform the indicated matrix operations. If the matrix does not exist, write impossible.

1) $\begin{bmatrix} 2 & -1 \\ 3 & 7 \\ 14 & -9 \end{bmatrix} + \begin{bmatrix} -6 & 9 \\ 7 & -11 \\ -8 & 17 \end{bmatrix}$

2) $-3\begin{bmatrix} -1 & 0 \\ 17 & -11 \end{bmatrix} + 4\begin{bmatrix} -3 & 16 \\ -21 & 12 \end{bmatrix}$

3) $\begin{bmatrix} 4 \\ -71 \\ 18 \end{bmatrix} + \begin{bmatrix} -67 \\ 45 \\ -24 \end{bmatrix}$

4) $5\begin{bmatrix} 1 & 3 & 2 \\ 4 & 7 & 9 \end{bmatrix} - 2\begin{bmatrix} -1 & 4 & -3 \\ 7 & 2 & -6 \end{bmatrix}$

3) Use $A = \begin{bmatrix} 4 & -1 & 0 \\ -3 & 6 & 2 \end{bmatrix}$, $B = \begin{bmatrix} -2 & 4 & 5 \\ 1 & 0 & -9 \end{bmatrix}$ and $C = \begin{bmatrix} 10 & -8 & 6 \\ -6 & -4 & 20 \end{bmatrix}$ to find the following:

1) $A - C$

2) $A - B$

3) $-3B$

4) $4B - A$

5) $-2B - 3C$

6) $A + 0.5C$

4) The table shows loans by an economic development board to women and men starting new businesses

	Women		Men	
	Businesses	Loan Amount	Businesses	Loan Amount
1999	27	567,000	36	864,000
2000	41	902,000	32	672,000
2001	35	777,000	28	562,000

1) Write two matrices that represent the number of new busnisses and loan amounts, one for men and one for women

2) Find the sum of the numbers of new busnisses and loan amounts for both men and women over the three – year period expressed as a matrix