

3. The number of goals scored by Sundram, Mohan and Raddy in the 2003, 2004, 2005 and 2006 soccer leagues are shown in the following table.

	2003	2004	2005	2006
Sundram	15	19	18	20
Mohan	10	16	21	19
Raddy	19	14	10	12

- (a) Represent the data in the above table by a 3×4 matrix **S**.
 (b) Describe the meaning of the element in the second row and the third column of **S**.
 (c) (i) Find the sum of all the elements in the second and the third rows of **S**.
 (ii) Interpret the result in (i).
4. The scores of Lee Ming, Meng Seng and Alan in two English tests before and after attending English remedial lessons are shown in the following table.

	Before	After
Lee Ming	21	23
Meng Seng	14	18
Alan	18	20

- (a) Represent the data in the above table by a 3×2 matrix **R**.
 (b) Describe the meaning of the element in the second row and the first column of **R**.
 (c) The elements in the first column are smaller than the corresponding elements in the second column of **R**. Interpret this observation.

5. Compute each of the following.

(a) $\begin{pmatrix} 6 & -5 \end{pmatrix} + \begin{pmatrix} 9 & 2 \end{pmatrix}$

(b) $\begin{pmatrix} 0 & -9 \\ 8 & 15 \end{pmatrix} + \begin{pmatrix} -7 & 10 \\ 4 & -12 \end{pmatrix}$

(c) $\begin{pmatrix} 24 & 7 \\ -13 & 5 \\ -12 & -3 \end{pmatrix} + \begin{pmatrix} -3 & -10 \\ -5 & -4 \\ 16 & 14 \end{pmatrix}$

(d) $\begin{pmatrix} a+1 & 2a-4 & -3a \\ a & 0 & 5a \end{pmatrix} + \begin{pmatrix} -1 & a-4 & 3a \\ a & a+4 & -3a \end{pmatrix}$

(e) $\begin{pmatrix} 6 \\ -2 \\ 8 \end{pmatrix} - \begin{pmatrix} 2 \\ 5 \\ 7 \end{pmatrix}$

(f) $\begin{pmatrix} 7 & 5 & 13 & -3 \end{pmatrix} - \begin{pmatrix} -9 & -5 & -12 & 7 \end{pmatrix}$

(g) $\begin{pmatrix} -8 & 0 \\ 17 & -14 \\ 3 & 9 \\ -9 & -21 \end{pmatrix} - \begin{pmatrix} -1 & 0 \\ 2 & 16 \\ -3 & 9 \\ 6 & -12 \end{pmatrix}$

(h) $\begin{pmatrix} 2b & -b-8 \\ 3b-4 & 5b+8 \end{pmatrix} - \begin{pmatrix} 2b+1 & -b \\ -3b-4 & 5b-8 \end{pmatrix}$