Railway Engineering Mathematics
Tutorial Sheet 21

Given the following matrices:

$$A = \begin{pmatrix} 7 & 2 \\ -3 & 8 \end{pmatrix} \qquad B = \begin{pmatrix} 4 & -1 & 7 \\ 5 & -3 & -2 \end{pmatrix}$$

$$C = \begin{pmatrix} 6 & 1 & 9 \\ -2 & 0 & -8 \end{pmatrix} \qquad D = \begin{pmatrix} -5 & -4 \\ 1 & 6 \end{pmatrix} \qquad E = \begin{pmatrix} 7 & -6 \\ -9 & 2 \\ 5 & -3 \end{pmatrix}$$

Determine if the following operations are possible, and if so then evaluate them:

1. $A + D$

2. $D - A$

3. $2A - 5D$

4. $A + C$

5. $B + C$

6. $3C - B$

7. AB

8. AD

9. DA

10. CD

11. EA

12. BE