

Matrices

Consider the following matrices:

$$A = \begin{pmatrix} 1 & -2 \\ 2 & 4 \end{pmatrix} \quad (1)$$

$$B = \begin{pmatrix} 9 & 3 \\ 2 & 0 \end{pmatrix} \quad (2)$$

$$C = \begin{pmatrix} 9 & 3 & 2 \\ 2 & 0 & -1 \end{pmatrix} \quad (3)$$

$$X = \begin{pmatrix} 1 \\ 4 \end{pmatrix} \quad (4)$$

$$I = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \quad (5)$$

If possible, calculate the following quantities:

1. AB
2. BA
3. AC
4. CA
5. AI
6. IA
7. AX
8. BX
9. XA