

## Chapter 2: Exercise Set

**Exercise 2.1**

Consider the following matrices,

$$\mathbf{A} = \begin{bmatrix} 1 & 3 & 5 \\ 2 & 4 & 6 \\ 0 & 8 & 2 \end{bmatrix} \quad (1)$$

$$\mathbf{B} = \begin{bmatrix} 7 & 2 \\ 1 & 5 \\ 9 & 4 \end{bmatrix} \quad (2)$$

Calculate the following values/matrices:

- (a)  $A_{2,3}$
- (b)  $\mathbf{A}^T$
- (c)  $\mathbf{B}^T$
- (d)  $\mathbf{A} + \mathbf{A}$
- (e)  $2\mathbf{B} + 1$
- (f)  $\mathbf{A}\mathbf{A}$
- (g)  $\mathbf{A}\mathbf{B}$
- (h)  $\mathbf{A} \odot \mathbf{A}$
- (i)  $I_3\mathbf{B}$
- (j)  $\mathbf{B}I_2$