

Assignment #13

13 3.1 p 223 # 1-10,12,21-24,37

1. Matrix B has 3 rows.2. Matrix E is 2×3 .

3.
$$-F = \begin{bmatrix} -1 & -2 & -3 \\ 1 & 0 & -1 \\ -2 & 3 & 4 \end{bmatrix}$$

4. Matrix D is 2×2 . The zero matrix of that order

is
$$\begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}.$$

5. A , C , D , F , and Z are square.

6. None of the given matrices are equal.

7. A , F , and Z are 3×3 . C and D are 2×2 .

8.
$$-B = \begin{bmatrix} -1 & -1 & -3 & 0 \\ -4 & -2 & -1 & -1 \\ -3 & -2 & 0 & -1 \end{bmatrix}$$

9. $a_{23} = 1$ 10. $b_{24} = 1$

12.
$$F^T = \begin{bmatrix} 1 & -1 & 2 \\ 2 & 0 & -3 \\ 3 & 1 & -4 \end{bmatrix}$$

$$21. \quad A + A^T = \begin{bmatrix} 1 & 0 & 2 \\ 3 & 2 & 1 \\ 4 & 0 & 3 \end{bmatrix} + \begin{bmatrix} 1 & 3 & 4 \\ 0 & 2 & 0 \\ 2 & 1 & 3 \end{bmatrix} = \begin{bmatrix} 2 & 3 & 6 \\ 3 & 4 & 1 \\ 6 & 1 & 6 \end{bmatrix}$$

$$22. \quad A + F^T = \begin{bmatrix} 1 & 0 & 2 \\ 3 & 2 & 1 \\ 4 & 0 & 3 \end{bmatrix} + \begin{bmatrix} 1 & -1 & 2 \\ 2 & 0 & -3 \\ 3 & 1 & -4 \end{bmatrix} \\ = \begin{bmatrix} 2 & -1 & 4 \\ 5 & 2 & -2 \\ 7 & 1 & -1 \end{bmatrix}$$

23. Because the orders are different, $D - E$ is undefined.

24. Because the orders are different, $B + F$ is undefined.

$$37. \quad \text{a.} \quad A + B = \begin{bmatrix} 825 & 580 & 1560 \\ 810 & 650 & 350 \end{bmatrix}$$

$$\text{b.} \quad B - A = \begin{bmatrix} -75 & 20 & -140 \\ 10 & -50 & 50 \end{bmatrix}$$