Matrix Definitions Exercises

For the following matrices

$$A = \begin{pmatrix} 3 & 0 & -1 \\ 2 & 1 & 0 \end{pmatrix}$$

$$B = \begin{pmatrix} 2 & 4 & 0 & -1 \end{pmatrix}$$

$$C = \begin{pmatrix} 3 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & -2 \end{pmatrix}$$

$$D = \begin{pmatrix} 1 & 4 \\ 0 & -2 \\ 5 & 1 \\ 2 & 3 \end{pmatrix}$$

$$E = \begin{pmatrix} -1 \\ 6 \end{pmatrix}$$

$$F = (3)$$

1. State the dimensions of the following matrices.
2. Identify any matrices that are also row or column vectors.
3. Identify any square matrices.
4. Identify any diagonal matrices.
5. Find the transpose of the matrices.
6. If $A = \begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{pmatrix}$ state the values of a_{12} and a_{23}.
7. State the values of b_2, c_{33}, d_{31} and e_1.