

ACMA4006

iv) Not possible as C has 2 columns and A has 3 rows.

$$V) |A| = 2(0-0) - 5(-10-15) + 3(0-0)$$

$$|A| = 125$$

$$vi) |B| = -5(18+4) - 8(6-0) + 0(-4-0)$$

$$|B| = -158$$

$$vii) A+B = \begin{pmatrix} -3 & 3 & 3 \\ -3 & 6 & 7 \\ 3 & -2 & 5 \end{pmatrix}$$

viii) $AB+D$ is not possible due to matrix dimensions.

$$b) y = \begin{pmatrix} 2 & 2x & -2 \\ 5 & x & 1 \\ 2 & (x+2) & 1 \end{pmatrix}$$

$$|y| = 2(x-x-2) - 2x(5-2) - 2((5x+10)-2x)$$

$$|y| = -4 - 10x + 4x - 6x - 20$$

$$|y| = -12x - 24$$

$$\text{When } |y| = 5$$

$$5 = -12x - 24$$

$$\frac{29}{-12} = x$$