

ii)

$$B = \begin{pmatrix} -2 & 8 & 0.5 \\ 2 & 5 & 2 \\ 0 & -4 & 1 \end{pmatrix} \quad A = \begin{pmatrix} 8 & -1 & 7 \\ -3 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix}$$

$3 \times 3 \qquad \qquad 3 \times 3$

can multiply

$$BA = \begin{pmatrix} -16 + 40 + 1.5 & 2 + 16 + 0 & -14 + 40 + 1 \\ 16 + -25 + 6 & -2 + 10 + 0 & 14 + 25 + 4 \\ 0 + 45 + 3 & 0 + -18 + 0 & 0 + -45 + 2 \end{pmatrix}$$

$$BA = \begin{pmatrix} 54.5 & 18 & 26 \\ -3 & 8 & 43 \\ 48 & -18 & -43 \end{pmatrix}$$

$AB \neq BA$ = non commutative (matrices)