

~~$$A = \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} \quad C = \begin{pmatrix} 2 & 5 \\ -6 & 0 \\ 1 & 12 \end{pmatrix}$$~~

~~A cannot be multiplied due to different rows and columns~~

$$A = \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix} \quad C = \begin{pmatrix} 2 & 5 \\ -6 & 0 \\ 1 & 12 \end{pmatrix}$$

$$r \times c \\ 3 \times 3$$

$$r \times c \\ 2 \times 3$$

ii) AC

$$\begin{array}{ll} 16 + 6 + 7 & 40 + 0 + 84 \\ -10 + -12 & -25 + 0 + 60 \\ 6 + 0 + 2 & 15 + 0 + 24 \end{array}$$

$$\begin{array}{ll} 29 & 124 \\ -17 & 45 \\ 8 & 39 \end{array}$$

$$C = \begin{pmatrix} 2 & 5 \\ -6 & 0 \\ 1 & 12 \end{pmatrix} \quad A = \begin{pmatrix} 8 & -1 & 7 \\ -5 & 2 & 5 \\ 3 & 0 & 2 \end{pmatrix}$$

$$r \times c \\ 3 \times 2$$

$$r \times c \\ 3 \times 3$$

iv) CA

$$\begin{aligned} & 8(4-0) - 1(15-10) + 7(6-0) \\ &= 8(4) + (5) + 7(6) \\ &= 24 + 5 + 42 \\ &= 71 \end{aligned}$$