

$$\text{aviii)} \quad AB = \begin{pmatrix} -18 & -6 & 9 \\ 14 & -75 & 12.5 \\ 6 & 6 & 3.5 \end{pmatrix} \quad D = \begin{pmatrix} 8 & 14 \\ 0.25 & 21 \end{pmatrix}$$

I can not add the matrices because they are not the same ~~size~~ size. AB is a 3×3 matrix and D is a 2×2 matrix.

D)

$$\textcircled{A} \quad \begin{pmatrix} 2 & 3 & 2 \\ 1 & 2 & 5 \\ 3 & 1 & -2 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} 14 \\ 9 \\ 19 \end{pmatrix}$$

$$|A| = 2 \times [(2 \times 2) - (1 \times 5)] - 3[(1 \times -2) - (5 \times 3)] + 2[(1 \times 1) - (5 \times 3)]$$

$$= 2 \times [-4 - 5] - 3[-2 - 15] + 2[1 - 15]$$

$$= (2 \times -9) - (3 \times -17) + (2 \times -14)$$

$$= 5$$

$$A_1 = \begin{pmatrix} 14 & 3 & 2 \\ 4 & 2 & 5 \\ 19 & 1 & -2 \end{pmatrix}$$

$$|A_1| = 14(-4 + 5) - 3(-8 + 95) + 2(4 - 38)$$

$$= 14 - 261 - 68$$

$$= -315$$

③