

代幾 I 計算演習 [問題] (2007/07/12)

問. 次の二つの行列 A, B の積 AB を求めなさい

Q.1

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

Q.7

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

Q.2

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

Q.8

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

Q.3

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

Q.9

$$A = \begin{pmatrix} -3 \\ 2 \\ 2 \\ 2 \end{pmatrix}, B = \begin{pmatrix} 3 & 2 & -3 & -3 \end{pmatrix}$$

Q.4

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

Q.10

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

Q.5

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

Q.11

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

Q.6

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

Q.12

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

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A.1

$$AB = \begin{pmatrix} 8 & -4 \end{pmatrix}$$

A.2

$$AB = \begin{pmatrix} -8 & 15 & -5 & 10 \end{pmatrix}$$

A.3

$$AB = \begin{pmatrix} 8 & 2 & 2 \\ -3 & -5 & -1 \\ 6 & -2 & 2 \end{pmatrix}$$

A.4

$$AB = \begin{pmatrix} 10 & -2 & 8 \\ -12 & 3 & -7 \end{pmatrix}$$

A.5

$$AB = \begin{pmatrix} 6 & -5 & 4 \end{pmatrix}$$

A.6

$$AB = \begin{pmatrix} -8 & 4 & -10 \\ -1 & 13 & 5 \\ -2 & 5 & 3 \end{pmatrix}$$

A.7

$$AB = \begin{pmatrix} 9 & 6 & 0 \\ -9 & -6 & 4 \\ 6 & 4 & 0 \end{pmatrix}$$

A.8

$$AB = \begin{pmatrix} 15 & 22 \\ -3 & -3 \\ 10 & 14 \end{pmatrix}$$

A.9

$$AB = \begin{pmatrix} -9 & -6 & 9 & 9 \\ 6 & 4 & -6 & -6 \\ 6 & 4 & -6 & -6 \\ 6 & 4 & -6 & -6 \end{pmatrix}$$

A.10

$$AB = \begin{pmatrix} 0 & 0 & 8 \\ -1 & 0 & -1 \\ 4 & 0 & 0 \end{pmatrix}$$

A.11

$$AB = \begin{pmatrix} -9 & 2 \\ 8 & -4 \\ -12 & 4 \end{pmatrix}$$

A.12

$$AB = \begin{pmatrix} -3 & 0 & -3 & 6 \\ 1 & 0 & 1 & -2 \\ -1 & 0 & -1 & 2 \\ 1 & 0 & 1 & -2 \end{pmatrix}$$