

代数学幾何学 (A/B) 計算演習 [問題] (2009/06/25)

問. 次の行列の逆行列を求めなさい

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|-----|--|------|--|------|--|
| Q.1 | $\begin{pmatrix} 1 & -3 & 2 \\ -1 & 6 & -4 \\ -2 & 5 & -3 \end{pmatrix}$ | Q.8 | $\begin{pmatrix} 3 & -1 & 1 \\ -5 & 2 & -2 \\ 0 & 0 & 1 \end{pmatrix}$ | Q.15 | $\begin{pmatrix} -2 & 3 & 1 \\ 1 & -2 & 0 \\ 0 & 1 & 0 \end{pmatrix}$ |
| Q.2 | $\begin{pmatrix} -3 & 2 & 1 \\ 2 & 1 & -2 \\ 1 & -1 & 0 \end{pmatrix}$ | Q.9 | $\begin{pmatrix} 3 & 1 & -1 \\ -1 & 2 & -1 \\ -2 & -1 & 1 \end{pmatrix}$ | Q.16 | $\begin{pmatrix} 0 & -1 & 2 \\ -1 & 1 & 1 \\ 1 & 0 & -2 \end{pmatrix}$ |
| Q.3 | $\begin{pmatrix} 1 & 1 & -2 \\ -1 & 3 & -1 \\ 1 & -4 & 2 \end{pmatrix}$ | Q.10 | $\begin{pmatrix} 1 & -2 & 0 \\ -1 & -2 & 1 \\ 0 & 1 & 0 \end{pmatrix}$ | Q.17 | $\begin{pmatrix} -1 & -4 & 2 \\ 2 & 3 & -2 \\ -1 & -1 & 1 \end{pmatrix}$ |
| Q.4 | $\begin{pmatrix} -1 & 0 & 1 \\ 3 & -4 & -2 \\ 1 & 1 & -1 \end{pmatrix}$ | Q.11 | $\begin{pmatrix} 0 & -2 & 3 \\ 1 & 3 & -5 \\ -2 & 1 & 0 \end{pmatrix}$ | Q.18 | $\begin{pmatrix} 0 & 3 & -2 \\ -1 & 1 & 0 \\ 2 & -3 & 1 \end{pmatrix}$ |
| Q.5 | $\begin{pmatrix} 3 & -3 & 2 \\ 2 & -1 & 0 \\ -2 & 2 & -1 \end{pmatrix}$ | Q.12 | $\begin{pmatrix} -3 & 1 & -1 \\ 4 & -1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$ | Q.19 | $\begin{pmatrix} 1 & 0 & -1 \\ 0 & -1 & 1 \\ 0 & 4 & -3 \end{pmatrix}$ |
| Q.6 | $\begin{pmatrix} 1 & -1 & 1 \\ 0 & 1 & -2 \\ 0 & 0 & 1 \end{pmatrix}$ | Q.13 | $\begin{pmatrix} -2 & 3 & -1 \\ 0 & 1 & -2 \\ 1 & -2 & 2 \end{pmatrix}$ | Q.20 | $\begin{pmatrix} -1 & 1 & 1 \\ 1 & 0 & -1 \\ -1 & -2 & 2 \end{pmatrix}$ |
| Q.7 | $\begin{pmatrix} -2 & 2 & -1 \\ 3 & -2 & -1 \\ 1 & -1 & 1 \end{pmatrix}$ | Q.14 | $\begin{pmatrix} 0 & 1 & 0 \\ 3 & 0 & -7 \\ -2 & 0 & 5 \end{pmatrix}$ | Q.21 | $\begin{pmatrix} -2 & 2 & 3 \\ 4 & -5 & -5 \\ -1 & 2 & 1 \end{pmatrix}$ |

代数学幾何学 (A/B) 計算演習 [解答] (2009/06/25)

A.1

$$A^{-1} = \begin{pmatrix} 2 & 1 & 0 \\ 5 & 1 & 2 \\ 7 & 1 & 3 \end{pmatrix}$$

A.8

$$A^{-1} = \begin{pmatrix} 2 & 1 & 0 \\ 5 & 3 & 1 \\ 0 & 0 & 1 \end{pmatrix}$$

A.15

$$A^{-1} = \begin{pmatrix} 0 & 1 & 2 \\ 0 & 0 & 1 \\ 1 & 2 & 1 \end{pmatrix}$$

A.2

$$A^{-1} = \begin{pmatrix} 2 & 1 & 5 \\ 2 & 1 & 4 \\ 3 & 1 & 7 \end{pmatrix}$$

A.9

$$A^{-1} = \begin{pmatrix} 1 & 0 & 1 \\ 3 & 1 & 4 \\ 5 & 1 & 7 \end{pmatrix}$$

A.16

$$A^{-1} = \begin{pmatrix} 2 & 2 & 3 \\ 1 & 2 & 2 \\ 1 & 1 & 1 \end{pmatrix}$$

A.3

$$A^{-1} = \begin{pmatrix} 2 & 6 & 5 \\ 1 & 4 & 3 \\ 1 & 5 & 4 \end{pmatrix}$$

A.10

$$A^{-1} = \begin{pmatrix} 1 & 0 & 2 \\ 0 & 0 & 1 \\ 1 & 1 & 4 \end{pmatrix}$$

A.17

$$A^{-1} = \begin{pmatrix} 1 & 2 & 2 \\ 0 & 1 & 2 \\ 1 & 3 & 5 \end{pmatrix}$$

A.4

$$A^{-1} = \begin{pmatrix} 6 & 1 & 4 \\ 1 & 0 & 1 \\ 7 & 1 & 4 \end{pmatrix}$$

A.11

$$A^{-1} = \begin{pmatrix} 5 & 3 & 1 \\ 10 & 6 & 3 \\ 7 & 4 & 2 \end{pmatrix}$$

A.18

$$A^{-1} = \begin{pmatrix} 1 & 3 & 2 \\ 1 & 4 & 2 \\ 1 & 6 & 3 \end{pmatrix}$$

A.5

$$A^{-1} = \begin{pmatrix} 1 & 1 & 2 \\ 2 & 1 & 4 \\ 2 & 0 & 3 \end{pmatrix}$$

A.12

$$A^{-1} = \begin{pmatrix} 1 & 1 & 1 \\ 4 & 3 & 4 \\ 0 & 0 & 1 \end{pmatrix}$$

A.19

$$A^{-1} = \begin{pmatrix} 1 & 4 & 1 \\ 0 & 3 & 1 \\ 0 & 4 & 1 \end{pmatrix}$$

A.6

$$A^{-1} = \begin{pmatrix} 1 & 1 & 1 \\ 0 & 1 & 2 \\ 0 & 0 & 1 \end{pmatrix}$$

A.13

$$A^{-1} = \begin{pmatrix} 2 & 4 & 5 \\ 2 & 3 & 4 \\ 1 & 1 & 2 \end{pmatrix}$$

A.20

$$A^{-1} = \begin{pmatrix} 2 & 4 & 1 \\ 1 & 1 & 0 \\ 2 & 3 & 1 \end{pmatrix}$$

A.7

$$A^{-1} = \begin{pmatrix} 3 & 1 & 4 \\ 4 & 1 & 5 \\ 1 & 0 & 2 \end{pmatrix}$$

A.14

$$A^{-1} = \begin{pmatrix} 0 & 5 & 7 \\ 1 & 0 & 0 \\ 0 & 2 & 3 \end{pmatrix}$$

A.21

$$A^{-1} = \begin{pmatrix} 5 & 4 & 5 \\ 1 & 1 & 2 \\ 3 & 2 & 2 \end{pmatrix}$$