

代幾 I 計算演習 [問題] (2008/10/23)

問. 次の行列の行列式を求めなさい

Q.1

$$\begin{vmatrix} -1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 \\ -1 & 2 & 0 & 0 & 0 & 0 & 0 & 0 \\ -2 & -4 & -1 & 1 & 1 & 0 & 0 & 0 \\ -5 & 1 & -2 & 0 & 2 & 0 & 0 & 0 \\ 0 & -8 & 3 & -3 & -3 & 0 & 0 & 0 \\ 8 & 3 & -2 & 4 & -1 & 0 & 2 & 0 \\ 8 & -3 & 4 & 1 & 7 & 0 & -3 & 1 \\ 2 & -2 & 5 & 0 & 1 & -3 & 0 & 1 \end{vmatrix}$$

Q.5

$$\begin{vmatrix} -3 & -3 & 3 & -1 & 1 & 5 \\ -3 & -2 & 2 & -2 & 8 & 5 \\ 2 & 1 & 3 & -4 & -1 & 4 \\ 0 & 0 & 0 & -4 & 1 & -4 \\ 0 & 0 & 0 & -1 & 0 & 1 \\ 0 & 0 & 0 & 0 & 0 & 5 \end{vmatrix}$$

Q.2

$$\begin{vmatrix} -3 & 2 & -2 & 8 & -9 & 9 & 0 \\ 2 & 1 & 0 & 8 & 3 & 5 & -1 \\ 3 & 1 & -1 & -6 & -6 & 9 & -8 \\ 0 & 0 & 0 & -2 & 2 & -2 & 1 \\ 0 & 0 & 0 & 1 & 3 & -1 & 1 \\ 0 & 0 & 0 & -3 & 1 & 1 & 4 \\ 0 & 0 & 0 & 0 & 0 & 0 & 4 \end{vmatrix}$$

Q.6

$$\begin{vmatrix} 2 & 3 & 1 & -6 & -7 \\ -3 & 2 & 2 & 7 & -3 \\ -1 & 1 & -2 & -9 & -5 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 3 & -4 \end{vmatrix}$$

Q.3

$$\begin{vmatrix} -4 & 0 & 0 & 7 & 4 & -5 & 9 \\ -5 & 3 & -8 & -4 & -2 & 5 & -4 \\ 0 & 0 & -8 & 5 & -9 & -1 & -2 \\ 0 & 0 & 0 & 10 & -5 & 9 & -4 \\ 0 & 0 & 0 & 0 & 3 & -4 & 3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 2 \\ 0 & 0 & 0 & 0 & 0 & 0 & 9 \end{vmatrix}$$

Q.7

$$\begin{vmatrix} -2 & -2 & 2 & 6 & -2 & -6 & -6 \\ 0 & 1 & 3 & 8 & -1 & 4 & 0 \\ 0 & 2 & 3 & 6 & 1 & -1 & 4 \\ 0 & 0 & 0 & -2 & 0 & 0 & -3 \\ 0 & 0 & 0 & -2 & -2 & 0 & 2 \\ 0 & 0 & 0 & 0 & 1 & 3 & 7 \\ 0 & 0 & 0 & 0 & 0 & 0 & 7 \end{vmatrix}$$

Q.4

$$\begin{vmatrix} 5 & 0 & 0 & 0 & 0 \\ -5 & -2 & 1 & 3 & 0 \\ -5 & -2 & 2 & -1 & 0 \\ 3 & 1 & 2 & -2 & 0 \\ -3 & -4 & 5 & 1 & 3 \end{vmatrix}$$

Q.8

$$\begin{vmatrix} 0 & -5 & -9 & -1 & 9 & 9 & 4 & 6 \\ -1 & 5 & -8 & -7 & 9 & -2 & 6 & 8 \\ 0 & 0 & -2 & 0 & 3 & 8 & 8 & 3 \\ 0 & 0 & -3 & -1 & 1 & -1 & 9 & -8 \\ 0 & 0 & -3 & -2 & 3 & 6 & 1 & -9 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & -3 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 & -1 \\ 0 & 0 & 0 & 0 & 0 & 1 & 3 & -3 \end{vmatrix}$$

代幾 I 計算演習 [解答] (2008/10/23)

A.1

$$\text{与式} = 0$$

A.2

$$\text{与式} = -864$$

A.3

$$\text{与式} = 0$$

A.4

$$\text{与式} = -285$$

A.5

$$\text{与式} = -60$$

A.6

$$\text{与式} = 259$$

A.7

$$\text{与式} = 504$$

A.8

$$\text{与式} = -110$$