

代数学幾何学 (A/B) 計算演習 [問題] (2009/11/19)

問. 次の行列の行列式を求めなさい

Q.1

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ 1-i & i & -1 & -i \\ -2i & -1 & 1 & -1 \\ -2-2i & -i & -1 & i \end{vmatrix}$$

Q.6

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -i & -1+i & i & 1-i \\ -1 & -2i & -1 & -2i \\ i & 2+2i & -i & -2-2i \end{vmatrix}$$

Q.2

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ i & 1+i & -1-i & -i \\ -1 & 2i & 2i & -1 \\ -i & -2+2i & 2-2i & i \end{vmatrix}$$

Q.7

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ 1-i & -1+i & i & -1-i \\ -2i & -2i & -1 & 2i \\ -2-2i & 2+2i & -i & 2-2i \end{vmatrix}$$

Q.3

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -i & -1-i & -1 & i \\ -1 & 2i & 1 & -1 \\ i & 2-2i & -1 & -i \end{vmatrix}$$

Q.8

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -1+i & -1 & i & -1-i \\ -2i & 1 & -1 & 2i \\ 2+2i & -1 & -i & 2-2i \end{vmatrix}$$

Q.4

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -1 & -i & -1-i & 1-i \\ 1 & -1 & 2i & -2i \\ -1 & i & 2-2i & -2-2i \end{vmatrix}$$

Q.9

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ i & -1 & -1-i & -i \\ -1 & 1 & 2i & -1 \\ -i & -1 & 2-2i & i \end{vmatrix}$$

Q.5

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -1-i & i & -i & 1+i \\ 2i & -1 & -1 & 2i \\ 2-2i & -i & i & -2+2i \end{vmatrix}$$

Q.10

$$\begin{vmatrix} 1 & 1 & 1 & 1 \\ -1 & 1+i & i & 1-i \\ 1 & 2i & -1 & -2i \\ -1 & -2+2i & -i & -2-2i \end{vmatrix}$$

代数学幾何学 (A/B) 計算演習 [解答] (2009/11/19)

A.1

$$\text{与式} = -20$$

A.2

$$\text{与式} = -4 - 28i$$

A.3

$$\text{与式} = -4 - 8i$$

A.4

$$\text{与式} = 6 + 2i$$

A.5

$$\text{与式} = 4 + 28i$$

A.6

$$\text{与式} = -4 + 28i$$

A.7

$$\text{与式} = -40 - 40i$$

A.8

$$\text{与式} = 6 + 2i$$

A.9

$$\text{与式} = -4 - 8i$$

A.10

$$\text{与式} = 10 + 30i$$