

# 代幾 I 計算演習 [問題] (2008/10/02)

問. 次の複素ベクトル  $v$  の長さ  $|v|$  を求めなさい

Q.1

$$v = \begin{pmatrix} 1+i \\ -2+3i \\ 2+i \\ 2+i \\ 2 \\ -3i \\ 3-2i \end{pmatrix}$$

Q.5

$$v = \begin{pmatrix} 1+3i \\ 2-2i \\ -2+3i \\ 1+3i \\ -1-2i \\ -1 \end{pmatrix}$$

Q.9

$$v = \begin{pmatrix} -3i \\ -2+i \\ 1+i \\ -1 \\ 3-3i \\ 2-i \\ -1 \end{pmatrix}$$

Q.13

$$v = \begin{pmatrix} -3-i \\ -2-3i \\ -1+i \\ 2-2i \\ 1+3i \\ 1+3i \\ i \end{pmatrix}$$

Q.2

$$v = \begin{pmatrix} 1 \\ 2-2i \\ -2-3i \\ -3-i \\ 2 \\ 0 \\ 2+i \end{pmatrix}$$

Q.6

$$v = \begin{pmatrix} -3 \\ 3+3i \\ 1 \\ -3-i \\ 3-2i \end{pmatrix}$$

Q.10

$$v = \begin{pmatrix} -2-3i \\ -1-3i \\ -1-2i \\ 2+i \\ -3-i \\ 2-i \\ 0 \end{pmatrix}$$

Q.14

$$v = \begin{pmatrix} 0 \\ 1+2i \\ -3+2i \\ 0 \\ -2-i \\ -1+i \end{pmatrix}$$

Q.3

$$v = \begin{pmatrix} -2 \\ 2+3i \\ -1-2i \\ 1 \\ -2+3i \end{pmatrix}$$

Q.7

$$v = \begin{pmatrix} 1+i \\ 3-i \\ -3+3i \\ -3+i \\ 2+i \\ -2-i \\ -1-2i \end{pmatrix}$$

Q.11

$$v = \begin{pmatrix} 3-2i \\ 2-3i \\ -3i \\ -3+2i \\ 3i \\ 1-2i \end{pmatrix}$$

Q.15

$$v = \begin{pmatrix} -1-2i \\ -1+i \\ 3+3i \\ -2-2i \\ -2+2i \\ 3-2i \\ -1-i \end{pmatrix}$$

Q.4

$$v = \begin{pmatrix} 0 \\ 1 \\ -3-2i \\ -1-3i \\ -1+3i \end{pmatrix}$$

Q.8

$$v = \begin{pmatrix} 3+3i \\ 1+3i \\ -3 \\ -3+i \\ 1-3i \\ 2 \\ -2+3i \end{pmatrix}$$

Q.12

$$v = \begin{pmatrix} -3i \\ 0 \\ -3+3i \\ -2-3i \\ i \\ -1+3i \\ -2+2i \end{pmatrix}$$

Q.16

$$v = \begin{pmatrix} 1+2i \\ 1-2i \\ -1-3i \\ 3-3i \\ 3+3i \\ 3+2i \end{pmatrix}$$

## 代幾 I 計算演習 [解答] (2008/10/02)

|                   |                   |                   |                    |
|-------------------|-------------------|-------------------|--------------------|
| A.1               | A.5               | A.9               | A.13               |
| $ v  = \sqrt{51}$ | $ v  = \sqrt{47}$ | $ v  = \sqrt{41}$ | $ v  = 3\sqrt{6}$  |
| A.2               | A.6               | A.10              | A.14               |
| $ v  = \sqrt{41}$ | $ v  = \sqrt{51}$ | $ v  = 4\sqrt{3}$ | $ v  = 5$          |
| A.3               | A.7               | A.11              | A.15               |
| $ v  = 6$         | $ v  = \sqrt{55}$ | $ v  = \sqrt{62}$ | $ v  = 2\sqrt{14}$ |
| A.4               | A.8               | A.12              | A.16               |
| $ v  = \sqrt{34}$ | $ v  = \sqrt{74}$ | $ v  = \sqrt{59}$ | $ v  = \sqrt{69}$  |