

CHAPTER 07

7.1

(a) $a = -3, b = 4$

(b) $a = 2, b = 1$

7.2

(a) $-2\vec{A} - \vec{B} = \begin{bmatrix} -2 & -2 & -2 \\ 5 & -9 & -2 \\ -4 & -2 & -1 \end{bmatrix}$

(b) $2\vec{A} + \vec{B} - \vec{C} = \begin{bmatrix} 1 & 3 & 0 \\ -4 & 7 & 4 \\ 3 & 5 & 1 \end{bmatrix}$

(c) $-2(\vec{A} - \vec{B}) - \vec{C} = \begin{bmatrix} -7 & 11 & 2 \\ 3 & -2 & -6 \\ 1 & 5 & 8 \end{bmatrix}$

(d) $-\vec{A} + \vec{B}^T + \vec{C} = \begin{bmatrix} 4 & -1 & 4 \\ 7 & 2 & -6 \\ 2 & -7 & 4 \end{bmatrix}$

(e) $(2\vec{A} - \vec{B})^T - \vec{C} = \begin{bmatrix} 1 & -2 & -2 \\ -5 & 1 & 8 \\ -3 & 9 & -5 \end{bmatrix}$

(f) $(\vec{A} + \vec{B} + \vec{C})^T = \begin{bmatrix} 5 & -4 & 4 \\ 2 & 8 & -3 \\ 4 & -2 & 2 \end{bmatrix}$

7.3

(a) $\vec{A}\vec{B} = \begin{bmatrix} 1 & 11 \\ -3 & -17 \end{bmatrix}$

(b) $\vec{B}\vec{A} = \begin{bmatrix} -8 & 12 \\ 4 & -8 \end{bmatrix}$

(c) $(\vec{A}\vec{B})\vec{C} = \begin{bmatrix} -8 & 21 \\ 8 & -31 \end{bmatrix}$

(d) $\vec{A}(\vec{B}\vec{C}) = \begin{bmatrix} -8 & 21 \\ 8 & -31 \end{bmatrix}$

(e) $\vec{A}^T\vec{B} = \begin{bmatrix} 2 & 14 \\ -3 & -13 \end{bmatrix}$

(f) $(\vec{A}\vec{B}\vec{C})^T = \begin{bmatrix} -8 & 8 \\ 21 & -31 \end{bmatrix}$

7.4

- (a) 3
- (b) 2
- (c) 1

7.5

- (a) $\det \vec{A} = -1$
- (b) $\det \vec{B} = 5$
- (c) $\det \vec{C} = 19$

7.6

생략

7.7

생략

7.8

생략

7.9

생략

7.10

생략

7.11

$$\vec{A}^{-1} = \frac{1}{13} \begin{bmatrix} -4 & -5 \\ 1 & -2 \end{bmatrix}, \quad \vec{B}^{-1} = \frac{1}{11} \begin{bmatrix} 9 & 7 & 6 \\ 7 & 3 & 1 \\ -6 & -1 & -4 \end{bmatrix}$$

7.12

생략

7.13

$$y = -x$$