Assessment Questions

Answer the following questions to verify your knowledge of the topics taught in this module. Your answers contribute to your grade for the course. You must achieve an overall grade of 70% to pass this course.

You are permitted only **one** attempt at each question, so think carefully before answering.

To protect the integrity of the assessment, the correct answers are not provided.

If anything is unclear, feel free to post a question in the discussion forum; but do **not** post answers (or information that makes the correct answer easy to guess). In the event of a dispute, the decision of the course staff is final.

Assessment 3.1

1/1 point (graded)

You have defined two vectors, **a** and **b**:

$$\vec{a} = \begin{bmatrix} 3 \\ 4 \end{bmatrix} \quad \vec{b} = \begin{bmatrix} 1 \\ -2 \end{bmatrix}$$

What is the result of the following operation?

$$\vec{a} + \vec{b} =$$

- $\begin{bmatrix} 7 \\ -1 \end{bmatrix}$
- $\begin{bmatrix} 1 \\ 5 \end{bmatrix}$
- ✔ $\begin{bmatrix} 4 \\ 2 \end{bmatrix}$
- 6

Submit You have used 1 of 1 attempt

Assessment 3.2

1/1 point (graded)

You have defined two vectors, **v** and **w**:

$$\vec{v} = \begin{bmatrix} 6 \\ 2 \end{bmatrix} \quad \vec{w} = \begin{bmatrix} 3 \\ 5 \end{bmatrix}$$

What is the result of the following operation?

$$\vec{v} \cdot \vec{w} =$$

$$\begin{bmatrix} 30 \\ 6 \end{bmatrix}$$

$$48$$

$$\begin{bmatrix} 18 \\ 10 \end{bmatrix}$$

$$28$$

Submit You have used 1 of 1 attempt

Assessment 3.3

1/1 point (graded)

You have defined two matrices, **M** and **N**:

$$M = \begin{bmatrix} 3 & 6 & 1 \\ 1 & 5 & 4 \end{bmatrix} \quad N = \begin{bmatrix} 2 & 2 & 5 \\ 3 & 1 & 2 \end{bmatrix}$$

What is the result of the following operation?

$$M + N =$$

- $\begin{bmatrix} 19 \\ 16 \end{bmatrix}$
- $\begin{bmatrix} 5 & 8 & 6 \\ 4 & 6 & 6 \end{bmatrix}$ ✔
- $[20 \quad 15]$
- 35

Submit You have used 1 of 1 attempt

Assessment 3.4

1/1 point (graded)

You have defined two matrices, **P** and **Q**:

$$P = \begin{bmatrix} 7 & 2 \\ 3 & 5 \end{bmatrix} \quad Q = \begin{bmatrix} 9 & 4 \\ 3 & 1 \end{bmatrix}$$

What is the result of the following operation?

$$P \cdot Q =$$

- $\begin{bmatrix} 119 & 34 \\ 51 & 85 \end{bmatrix}$
- $\begin{bmatrix} 63 & 8 \\ 9 & 5 \end{bmatrix}$
- ✔ $\begin{bmatrix} 69 & 30 \\ 42 & 17 \end{bmatrix}$
- 289

Submit You have used 1 of 1 attempt

Assessment 3.5

1/1 point (graded)

You have defined two matrices, **S** and **T**:

$$S = \begin{bmatrix} 5 & 3 \\ 6 & 4 \end{bmatrix} \quad T = \begin{bmatrix} 1 & 4 \\ 2 & 6 \end{bmatrix}$$

What is the result of the following operation?

$$S^{-1} \cdot T =$$

- $\begin{bmatrix} -1 & -1 \\ 2 & 3 \end{bmatrix}$
- $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$
- $\begin{bmatrix} 11 & 38 \\ 14 & 48 \end{bmatrix}$
- 221

Submit You have used 1 of 1 attempt