

Unit 2 - Week 0

Course outline

How does an NPTEL online course work?

Week 0

Quiz : Assignment 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

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Assignment 0

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-01-27, 23:59 IST.

1) Sides of $\triangle ABC$ are a , b and c respectively. Find the length of side c when $a = 2$ cm, $b = 3$ cm and $\angle BAC = 30^\circ$.

1 point

- a. 4.27 cm or 3.25 cm.
b. 4.27 cm or 1.17 cm.
c. 3.92 cm or 1.27 cm.
d. The triangle is geometrically undefined.

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

2) The value of θ in the equation $2 \sin(\theta) + 4 \cos(\theta) = 0.5$ is _____.

1 point

- a. 101.14° or -57.01°
b. -57.01° or 28.39°
c. -57.01° or 110.14°
d. 98.10° or -57.50°

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
c.

3) $D = \begin{bmatrix} -1 & 0 & 4 \\ 2 & 0 & 0 \end{bmatrix}$, $F = \begin{bmatrix} 1 & -1 & 2 \\ 1 & 3 & 4 \end{bmatrix}$, DF^T is _____.

1 point

- a. $\begin{bmatrix} 7 & 15 \\ 2 & 2 \end{bmatrix}$
b. $\begin{bmatrix} 9 & 15 \\ -2 & 2 \end{bmatrix}$
c. $\begin{bmatrix} 7 & 15 \\ -2 & 2 \end{bmatrix}$
d. $\begin{bmatrix} 9 & -2 \\ 15 & 2 \end{bmatrix}$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

4) If $\mathbf{a} = 3\mathbf{i} + 5\mathbf{j}$ and $\mathbf{b} = 7\mathbf{i} + 2\mathbf{j}$ then $|\mathbf{a} \times \mathbf{b}| =$ _____ and $\text{Arg}((\mathbf{a} \cdot \mathbf{b}) \mathbf{a} + \mathbf{b}) =$ _____, where $\text{Arg}()$ stands for argument/angle of the vector with the x axis.

1 point

- a. 29 and 17.215°
b. 29 and 57.505°
c. 6 and 57.505°
d. 6 and 17.215°

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

5) Find the point of intersection of two lines $3x + y = 1$ and $5x + 6y = 2$.

1 point

- a. $(5/6, 1/3)$
b. $(1/3, 5/6)$
c. $(1/13, 4/13)$
d. $(4/13, 1/13)$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

6) What will be the equation of a line passing through points $(2,-1)$ and $(1,4)$?

1 point

- a. $5x + y = 9$
b. $5y + x = 9$
c. $9x + y = 5$
d. $9y + x = 5$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

7) If $\mathbf{a} = 5\mathbf{i} + \mathbf{j}$ and $\mathbf{b} = 3\mathbf{i} + 8\mathbf{j}$ then the length of the projection of \mathbf{a} along \mathbf{b} is _____.

1 point

- a. 4.51
b. 2.69
c. 2.13
d. 23

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
b.

8) If $\mathbf{a} = 3\mathbf{i} + 4\mathbf{j}$ and $\mathbf{b} = 2\mathbf{i} + 5\mathbf{j}$ then the angle between \mathbf{a} and \mathbf{b} is _____ deg.

1 point

- a. 15.068°
b. 11.182°
c. 8.321°
d. 9.516°

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a.

9) Given a vector $\mathbf{a} = -\mathbf{i} + 2\mathbf{j}$, determine its angle with the positive y axis measured CCW.

1 point

- a. -63.435°
b. 63.435°
c. 116.565°
d. 26.565°

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.

10) A vector $\mathbf{a} = 3\mathbf{i} + 4\mathbf{j}$ is rotated by 30° in the counter-clockwise direction. Then vector \mathbf{a} after the rotation is _____.

1 point

- a. $-0.598\mathbf{i} - 4.964\mathbf{j}$
b. $0.598\mathbf{i} - 4.964\mathbf{j}$
c. $-0.598\mathbf{i} + 4.964\mathbf{j}$
d. $0.598\mathbf{i} + 4.964\mathbf{j}$

- a.
 b.
 c.
 d.

No, the answer is incorrect.
Score: 0

Accepted Answers:
d.