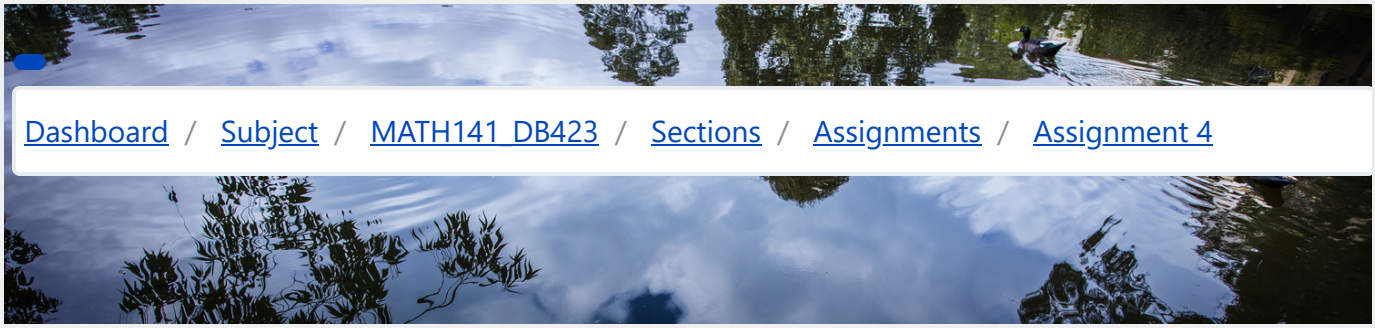

Started on	
State	Finished
Completed on	
Time taken	
Marks	
Grade	

Question **1**

Correct

Mark 1.00 out of 1.00

Express the vector $\overrightarrow{AB}$ as a linear combination of **i, j and k.**

A is the point (-10, -7, -5) and B is the point (-5, -14, -2)

Select one:

- A. $\overrightarrow{AB} = 5\mathbf{i} + 7\mathbf{j} + 3\mathbf{k}$
- B. $\overrightarrow{AB} = 5\mathbf{i} - 7\mathbf{j} + 3\mathbf{k}$ ✔
- C. $\overrightarrow{AB} = 5\mathbf{i} - 7\mathbf{j} - 3\mathbf{k}$
- D. $\overrightarrow{AB} = 5\mathbf{i} + 7\mathbf{j} - 3\mathbf{k}$

The correct answer is: $\overrightarrow{AB} = 5\mathbf{i} - 7\mathbf{j} + 3\mathbf{k}$

Question **2**

Correct

Mark 1.00 out of 1.00

Find the parametric equations for the line segment joining the points.

(-3, 0, -3), (0, 3, 0)

Select one:

- A. $x = 4t - 3, y = -2t, z = 4t - 3, 0 \le t \le 1$
- B. $x = 4t, y = -2t + 3, z = 4t, 0 \le t \le 1$
- C. $x = -3t, y = -3t + 3, z = -3t, 0 \le t \le 1$
- D. $x = 3t - 3, y = 3t, z = 3t - 3, 0 \le t \le 1$ ✔

The correct answers are: $x = 3t - 3, y = 3t, z = 3t - 3, 0 \le t \le 1$, $x = -3t, y = -3t + 3, z = -3t, 0 \le t \le 1$

Question **3**

Correct

Mark 1.00 out of 1.00

Calculate the requested distance.

The distance from the point S(5, 7, -8) to the plane $4x + 3y = 2$

Select one:

- A. $\frac{1}{25}$
- B. $\frac{3}{5}$
- C. $\frac{39}{5}$ ✔
- D. $\frac{39}{25}$

The correct answer is: $\frac{39}{5}$

Question **4**

Correct

Mark 1.00 out of 1.00

Find the magnitude.

Let $\mathbf{u} = \langle -1, 3 \rangle$ and $\mathbf{v} = \langle 0, 1 \rangle$. Find the magnitude (length) of the vector: $-4\mathbf{u} - \mathbf{v}$.

Select one:

- A. $\sqrt{155}$
- B. 155
- C. $\sqrt{185}$ ✔
- D. 185

The correct answer is: $\sqrt{185}$

Question **5**

Incorrect

Mark 0.00 out of 1.00

Find the vector $\mathbf{proj}_{\mathbf{v}}\ \mathbf{u}$.

$\mathbf{v} = 3\mathbf{i} - \mathbf{j} + 3\mathbf{k}$, $\mathbf{u} = 2\mathbf{i} + 10\mathbf{j} + 11\mathbf{k}$

Select one:

- A. $\frac{87}{19}\mathbf{i} - \frac{29}{19}\mathbf{j} + \frac{87}{19}\mathbf{k}$
- B. $\frac{58}{225}\mathbf{i} + \frac{58}{45}\mathbf{j} + \frac{319}{225}\mathbf{k}$ ✖
- C. $\frac{58}{15}\mathbf{i} + \frac{58}{3}\mathbf{j} + \frac{319}{15}\mathbf{k}$
- D. $\frac{147}{19}\mathbf{i} - \frac{49}{19}\mathbf{j} + \frac{147}{19}\mathbf{k}$

The correct answer is: $\frac{87}{19}\mathbf{i} - \frac{29}{19}\mathbf{j} + \frac{87}{19}\mathbf{k}$

Question **6**

Correct

Mark 1.00 out of 1.00

Find the angle between u and v in radians.

u = 7**j** - 2**k**, **v** = 10**i** - 4**j** - 7**k**

Select one:

- A. 1.64
- B. -0.15
- C. 1.57
- D. 1.72 ✔

The correct answer is: 1.72

Question **7**

Incorrect

Mark 0.00 out of 1.00

Find the intersection.

x + y + z = -9, x + y = -16

Select one:

- A. x = -t, y = -16 + t, z = -7
- B. x = t, y = -16 - t, z = 7 ✖
- C. x = -1, y = 1 - 16t, z = 7t
- D. x = -t, y = -16 + t, z = 7

The correct answer is: x = -t, y = -16 + t, z = 7

Question **8**

Correct

Mark 1.00 out of 1.00

Solve the problem.

Find a vector of magnitude 9 in the direction opposite to the direction of $\mathbf{v} = \frac{1}{4}\mathbf{i} + \frac{1}{4}\mathbf{j} - \frac{1}{4}\mathbf{k}$.

Select one:

- A. $12\sqrt{3}\left(-\frac{1}{4}\mathbf{i} - \frac{1}{4}\mathbf{j} + \frac{1}{4}\mathbf{k}\right)$ ✔
- B. $9\left(\frac{1}{4}\mathbf{i} + \frac{1}{4}\mathbf{j} - \frac{1}{4}\mathbf{k}\right)$
- C. $12\sqrt{3}\left(\frac{1}{4}\mathbf{i} + \frac{1}{4}\mathbf{j} - \frac{1}{4}\mathbf{k}\right)$
- D. $12\left(-\frac{1}{4}\mathbf{i} - \frac{1}{4}\mathbf{j} + \frac{1}{4}\mathbf{k}\right)$

The correct answer is: $12\sqrt{3}\left(-\frac{1}{4}\mathbf{i} - \frac{1}{4}\mathbf{j} + \frac{1}{4}\mathbf{k}\right)$

Question **9**

Correct

Mark 1.00 out of 1.00

Find $\mathbf{v} \cdot \mathbf{u}$.

$\mathbf{v} = -5\mathbf{i} + 4\mathbf{j}$ and $\mathbf{u} = 7\mathbf{i} + 3\mathbf{j}$

Select one:

- A. -23 ✔
- B. $-35\mathbf{i} + 12\mathbf{j}$
- C. -47
- D. $2\mathbf{i} + 7\mathbf{j}$

The correct answer is: -23

Question **10**

Correct

Mark 1.00 out of 1.00

Find the intersection.

x = 10 + 5t, y = 4 + 2t, z = 1 + 4t ; -8x + 5y + 10z = -6

Select one:

- A. (5, 2, -3)
- B. $\left(-12, -\frac{99}{5}, -\frac{83}{5}\right)$
- C. (15, 6, 5)
- D. $\left(32, \frac{64}{5}, \frac{93}{5}\right)$ ✔

The correct answer is: $\left(32, \frac{64}{5}, \frac{93}{5}\right)$

Question **11**

Correct

Mark 1.00 out of 1.00

Find parametric equations for the line described below.

Passes through the point P(4, 4, -5) parallel to the vector $-2\mathbf{i} + 5\mathbf{j} - 6\mathbf{k}$

Select one:

- A. x = 2t + 4, y = 5t + 4, z = -6t - 5
- B. x = 2t - 4, y = 5t - 4, z = -6t + 5
- C. x = -2t + 4, y = 5t + 4, z = -6t - 5 ✔
- D. x = -2t - 4, y =5t - 4, z = -6t + 5

The correct answer is: x = -2t + 4, y = 5t + 4, z = -6t - 5

Question **12**

Correct

Mark 1.00 out of 1.00

Write the equation for the plane.

Passes through the point P(-4, -5, -7) and normal to **n** = -2**i** - 2**j** + 3**k**.

Select one:

- A. $4x + 5y - 7z = 19$
- B. $-4x - 5y + 7z = 19$
- C. $-2x - 2y + 3z = -3$ ✔
- D. $2x + 2y - 3z = 19$

The correct answer is: $-2x - 2y + 3z = -3$

Question **13**

Correct

Mark 1.00 out of 1.00

Solve the problem.

Find the area of the triangle determined by the points P(-3, 6, -4), Q(-10, -8, -3), and R(2, 3, -4).

Select one:

- A. $\frac{\sqrt{2435}}{2}$
- B. $\sqrt{2435}$
- C. $\frac{\sqrt{8315}}{2}$ ✔
- D. $\sqrt{8315}$

The correct answer is: $\frac{\sqrt{8315}}{2}$

Question **14**

Correct

Mark 1.00 out of 1.00

Find the component form of the specified vector.

The vector $\overrightarrow{PQ}$, where P = (9, 8) and Q = (8, -9)

Select one:

- A. $\langle 17, -1 \rangle$
- B. $\langle 17, -9 \rangle$
- C. $\langle -1, -17 \rangle$ ✔
- D. $\langle 1, 17 \rangle$

The correct answer is: $\langle -1, -17 \rangle$

Question **15**

Incorrect

Mark 0.00 out of 1.00

Find parametric equations for the line described below.

Passes through the point P(-7, 0, -4) and parallel to the line x = 4t - 4, $y = 2t + 6$, $z = 3t + 5$

Select one:

- A. x = 2t - 7, y = -4t, z = -4
- B. x = 4 + 7, y = 2t, z = 3t + 4 ✖
- C. x = 4t - 7, y = 2t, z = 3t - 4
- D. x = -7, y = 3t, z = -2t - 4

The correct answer is: x = 4t - 7, y = 2t, z = 3t - 4

Question **16**

Correct

Mark 1.00 out of 1.00

Write the equation for the plane.

Passes through the points P(5, -2, 0) , Q(-3, 8, -26) and R(-1, 5, -17).

Select one:

- A. $5x + y + 3z = 5$
- B. $5x + y + 3z = -5$
- C. $3x + 5y + z = 5$ ✔
- D. $3x + 5y + z = -5$

The correct answer is: $3x + 5y + z = 5$