**Question 1**

Correct

Mark 0.75 out of 1.00

Which one of the following is equivalent to the point (−3, 5, −6)?

Select one:

- a. (−3, 5, −6, 0)
- b. (3, −5, 6, 1)
- c. (−9, 15, −18, 3) ✓
- d. (6, −10, 12, 2)
- e. (−3, 5, −6, −1)

Check

**Correct**

Marks for this submission: 1.00/1.00. Accounting for previous tries, this gives **0.75/1.00**.

**Question 2**

Correct

Mark 0.75 out of 1.00

Which one of the following is a **unit** vector?

Select one:

- a. (0.5, 0, 0.5, 0)
- b. (1, 1, 1, 1)
- c. (1, 1, 1, 0)
- d. (−0.6, 0, 0.8, 0) ✓
- e. (2, −1, 0, 0)

Check

**Correct**

Marks for this submission: 1.00/1.00. Accounting for previous tries, this gives **0.75/1.00**.

**Question 3**

Correct

Mark 1.00 out of 1.00

Which one of the following represents a vector in homogeneous coordinates?

Select one:

- a. (1, 1, 1, 1)
- b. (0, 1, 0, 1)
- c. (1, 0, 1, 0) ✓
- d. (0, 0, 0, 1)
- e. (0, 0, 0, −1)

Check

**Correct**

Marks for this submission: 1.00/1.00.

**Question 4**

Correct

Mark 1.00 out of 1.00

***A*** and ***B*** are two vectors. In which one of the following cases is ***A*** orthogonal (perpendicular) to ***B*** ?

Select one:

- a. ***A*** = (4, 4, 4, 0), ***B*** = (−4, −4, −4, 0)
- b. ***A*** = (1, 0, 3, 0), ***B*** = (−6, 0, 2, 0) ✓
- c. ***A*** = (1, 1, 1, 0), ***B*** = (0, 0, 1, 0)
- d. ***A*** = (1, 0, −1, 0), ***B*** = (−1, 0, 1, 0)
- e. ***A*** = (1, 1, 2, 0), ***B*** = (2, 2, 1, 0)

Check

**Correct**

Marks for this submission: 1.00/1.00.

**Question 5**

Correct

Mark 1.00 out of 1.00

What are the components of the vector from the point A = (8, 0, −2) to the point B = (3, −5, −7) ?

Select one:

- a. (11, −5, −9)
- b. (−5, −5, −5) ✓
- c. (−5, −5, −9)
- d. (5, 5, 5)
- e. (5, −5, 5)

Check

Your answer is correct.

**Correct**

Marks for this submission: 1.00/1.00.

**Question 6**

Correct

Mark 0.75 out of 1.00

If X, Y, Z denote unit vectors along x-axis, y-axis and z-axis respectively, then the vector cross product Z x Y =

Select one:

- a. −X ✓
- b. Z
- c. X
- d. Y
- e. 0

Check

**Correct**

Marks for this submission: 1.00/1.00. Accounting for previous tries, this gives **0.75/1.00**.

**Question 7**

Correct

Mark 1.00 out of 1.00

If two unit vectors $\boldsymbol{v}$ and $\boldsymbol{w}$ are parallel, then $3(\boldsymbol{v} \times \boldsymbol{w}) =$

(x indicates vector cross product)

Select one:

- a. 3
- b. 3(1, 0, 0, 0)
- c. (0, 0, 0, 0) ✓
- d. 3(1, 1, 1, 1)
- e. (3, 3, 3, 0)

Check

**Correct**

Marks for this submission: 1.00/1.00.

**Question 8**

Correct

Mark 1.00 out of 1.00

The two vectors (2, −3, 1, 0) and (4, 2, −3, 0) are

Select one:

- a. parallel to each other
- b. oriented in opposite directions ✓
- c. orthogonal to each other
- d. oriented in the same direction
- e. equivalent to each other

Check

**Correct**

Marks for this submission: 1.00/1.00.

**Question 9**

Correct

Mark 1.00 out of 1.00

The projection of the vector (3, 8, 2, 0) along the y-axis is the vector

Select one:

- a. (3, 0, 2, 0)
- b. (0, 1, 0, 0)
- c. (0, 8, 0, 0) ✓
- d. (3, 1, 2, 0)
- e. (3, 8, 2, 0)

Check

**Correct**

Marks for this submission: 1.00/1.00.

**Question 10**

Correct

Mark 1.00 out of 1.00

What is the angle between the vector (1, $\sqrt{3}$, 0) and the vector (2, 0, 0)?

Select one:

- a. 30 Degs
- b. 90 Degs
- c. 45 Degs
- d. 0 Degs
- e. 60 Degs ✓

Check

**Correct**

Marks for this submission: 1.00/1.00.