
Problem 1. (1 point)

Assume we wish to make an animation that moves an object from the point $A = (15, 17)$ to the point $B = (-5, 14)$.

What sum $P + \vec{v}$ is involved in this animation?

Answer: $(\text{---}, \text{---}) + \langle \text{---}, \text{---} \rangle$

Compute $P + \frac{1}{2}\vec{v}$ to find where the object would be half way along its path.

Answer: $(\text{---}, \text{---})$

Where is it when it is 90% of the way along?

Answer: $(\text{---}, \text{---})$

Answer(s) submitted:

- 15
- 17
- -20
- -3
- 5
- 15.5
- -3
- 14.3

(correct)

Problem 2. (1 point)

$$v = \langle 2, 2, 3 \rangle$$

$$w = \langle 6, 4, 8 \rangle$$

Find the cosine of the angle between v and w .

$$\cos \theta = \text{---}$$

Answer(s) submitted:

- 0.9908

(correct)

Problem 3. (1 point)

Give a vector parametric equation for the line through the point $(4, -4, 1)$ that is parallel to the line $\langle 4t - 4, t - 2, 3 - 3t \rangle$:

$$L(t) = \text{---}$$

Answer(s) submitted:

- $\langle 4t+4, t-4, -3t+1 \rangle$

(correct)

Problem 4. (1 point)

Find the distance from the point $(2, 0, 4)$ to the plane $-5x + 5y - 5z = 6$.

Answer(s) submitted:

- 4.15692193

(correct)

Problem 5. (1 point)

Find an equation for the plane through the points $(3, 4, 3), (2, 0, 1), (0, 2, 1)$.

The plane is _____

Answer(s) submitted:

- $4x+4y+-10z+2=0$

(correct)

Problem 6. (1 point)

Consider the following geometry problems in 3-space

Enter T or F depending on whether the statement is true or false. (You must enter T or F – True and False will not work.)

- ___1. Two planes orthogonal to a line are parallel
- ___2. Two lines either intersect or are parallel
- ___3. Two planes orthogonal to a third plane are parallel
- ___4. Two planes parallel to a line are parallel
- ___5. Two lines parallel to a plane are parallel
- ___6. Two planes parallel to a third plane are parallel
- ___7. A plane and a line either intersect or are parallel
- ___8. Two lines orthogonal to a plane are parallel
- ___9. Two lines parallel to a third line are parallel
- ___10. Two planes either intersect or are parallel
- ___11. Two lines orthogonal to a third line are parallel

Answer(s) submitted:

- T
- F
- F
- F
- F
- T
- T
- T
- T
- T
- T
- F

(correct)