
1 Suppose that AB is the diameter of a circle with center O and that C is a point
5 points on one of the two arcs joining A and B . Show that \overrightarrow{CA} and \overrightarrow{CB} are orthogonal.

2 Consider three points
5 points

$$P(-1, 1, -1), \quad Q(1, 0, -1), \quad \text{and} \quad R(0, 1, -2).$$

- (a) Find a unit vector perpendicular to plane PQR .
- (b) Find the area of the triangle determined by the points P , Q , and R .