Problem 1. [10 points] Suppose $A = (1, 0, 0)$, $B = (0, 1, 0)$, and $C = (0, -2, 1)$. Find the angle $A$ of the triangle $ABC$ and its area. Round the angle up to the nearest degree.

Problem 2. [10 points] Find the plane passing through the line

$$x = 1 + t, \ y = 1 - t, \ z = 2t,$$

and the point $P = (0, 4, 3)$. 