1. (5 points) Let $u = 2i + 2j + k$ and $v = 2i + 10j - 11k$. Let $\theta$ be the angle between them.

   (a) Find $\cos \theta$.

   (b) Find $\text{proj}_v u$. 

Note: Show all your work. No calculators allowed.
2. (5 points) Find the area of the triangle with vertices at $A(1, 0, 0)$, $B(0, 2, 0)$ and $C(0, 0, -1)$. 