1. Find a vector that is orthogonal to the vectors $\langle 1, 2, 3 \rangle$ and $\langle 1, 0, 1 \rangle$.
   The cross product of two vectors is orthogonal to each vector, so we can take
   $$\langle 1, 2, 3 \rangle \times \langle 1, 0, 1 \rangle = \langle 2, 2, -2 \rangle.$$  
   A good check on your work would be to see that the dot products of the vector you get with $\langle 1, 2, 3 \rangle$ and $\langle 1, 0, 1 \rangle$ are both zero.

2. What is the area of the triangle with vertices $(1, 0, 1)$, $(1, 2, 0)$, and $(0, 2, 1)$?
   We get two adjacent edges: $(1, 2, 0) - (1, 0, 1) = (0, 2, -1)$ and $(0, 2, 1) - (1, 0, 1) = (-1, 2, 0)$. The magnitude of their cross product will give the area of the parallelogram they determine, so the area of the triangle is half of that:
   $$\frac{1}{2} |\langle 0, 2, -1 \rangle \times \langle -1, 2, 0 \rangle| = \frac{1}{2} |\langle 2, 1, 2 \rangle| = 3/2.$$