Name: 

Math 206: Fall 2011
Quiz 2: September 28

Please write your final answer in the space provided. For full credit you must show your work. Remember to use correct vector notation. Good Luck!

1. Find the angle between the vectors $6\hat{i} + 5\hat{j} + 4\hat{k}$ and $\hat{i} - \hat{j} + \hat{k}$. (A decimal approximation is an acceptable answer.)

2. Find proj$_b\vec{a}$, where $\vec{a} = 4\hat{i} + 6\hat{j} - 8\hat{k}$ and $\vec{b} = -\hat{i} - \hat{j} - \hat{k}$. 

(1) 

(2)
3. The parallelepiped shown has vertices:

\[ A = (2, 2, 2) \]
\[ B = (-1, 4, 0) \]
\[ C = (2, 5, 0) \]
\[ O = (2, 1, 0) \]
\[ P = (-1, 5, 2) \]
\[ Q = (2, 6, 2) \]
\[ R = (-1, 8, 0) \]
\[ S = (-1, 9, 2) \]

Find the volume of the parallelepiped.