

MTH 234 - Quiz 1

22 May 2015

Name:

Show all your work to receive full credit on the following problems.

Consider the following vectors:

$$\vec{a} = \langle 1, 4, 1 \rangle$$

$$\vec{b} = \langle 2, 0, 0 \rangle$$

1. (5 points) Find a unit vector with the same direction as \vec{a} .

2. (5 points) Find the cosine of the angle between \vec{a} and \vec{b} .

3. (5 points) Find a vector perpendicular to both \vec{a} and \vec{b} .

4. (5 points) Find the equation of a plane passing through the origin $(0, 0, 0)$ containing the points $(1, 4, 1)$ and $(2, 0, 0)$. (Hint: Use part (3).)