

Name _____ ID _____

MATH 251

Quiz 1

Fall 2005

Sections 503

P. Yasskin

1-4	/20
5	/ 5
Total	/25

Multiple Choice & Work Out: (5 points each)

1. A triangle has vertices $A = (0, 3, 2)$, $B = (-2, 3, 0)$ and $C = (-2, 0, 3)$. Find the angle at vertex B .
- a. $\frac{\pi}{6}$
 - b. $\frac{\pi}{3}$
 - c. $\frac{\pi}{2}$
 - d. $\frac{2\pi}{3}$
 - e. $\frac{5\pi}{6}$
2. A triangle has vertices $A = (0, 3, 2)$, $B = (-2, 3, 0)$ and $C = (-2, 0, 3)$. Find the area of the triangle.
- a. 15
 - b. 30
 - c. $2\sqrt{3}$
 - d. $3\sqrt{3}$
 - e. $6\sqrt{3}$

3. If \vec{u} points Up (away from the center of the earth) and \vec{v} points NorthEast, then $\vec{u} \times \vec{v}$ points
- Up
 - Down
 - SouthEast
 - SouthWest
 - NorthWest
4. Find the equation of the plane which is perpendicular to the line $(x,y,z) = (2 - 3t, 3 + t, 1 - t)$ and passes through the point $(-1, 4, 3)$.
- $2x + 3y + z = 13$
 - $2x + 3y + z = -4$
 - $-3x + y - z = 4$
 - $-3x + y - z = -4$
 - $-x + 4y + 3z = 13$
5. Consider the set of all points P such that the distance from P to $(3, 3, 3)$ is twice the distance from P to $(0, 0, 0)$. This set of points is a sphere. Find its center and radius.