

Name _____ ID _____

MATH 253

Quiz 1

Spring 2007

Sections 501-503

P. Yasskin

1-4	/20
5	/ 5
Total	/25

Multiple Choice & Work Out: (5 points each)

1. Find the equation of the sphere with center at $(4,3,2)$ which passes through the point $(2,4,0)$.

- a. $(x+4)^2 + (y+3)^2 + (z+2)^2 = \sqrt{3}$
- b. $(x-4)^2 + (y-3)^2 + (z-2)^2 = 3$
- c. $(x-4)^2 + (y+3)^2 + (z-2)^2 = 3$
- d. $(x-4)^2 + (y-3)^2 + (z-2)^2 = 9$
- e. $(x+4)^2 + (y-3)^2 + (z+2)^2 = 9$

2. If \vec{u} points South East and \vec{v} points Down, then $\vec{u} \times \vec{v}$ points

- a. South West
- b. South East
- c. Up
- d. North West
- e. North East

3. A wagon is pulled horizontally from the origin $(0,0)$ to the point $(4,0)$ meters by the force $\vec{F} = (2,1)$ Newtons. Find the work done.

- a. 8 Joules
- b. 4 Joules
- c. $4\sqrt{5}$ Joules
- d. 12 Joules
- e. $\frac{4}{\sqrt{5}}$ Joules

4. A triangle has vertices $P = (2, 1, 3)$, $Q = (2, 4, 0)$, and $R = (4, 1, 1)$. Find the angle at P .

- a. 30°
- b. 60°
- c. 90°
- d. 120°
- e. 150°

5. A triangle has vertices $P = (2, 1, 3)$, $Q = (2, 4, 0)$, and $R = (4, 1, 1)$. Find the area of the triangle. Solve this on the back of the Scantron. Show all work.