

Name: _____

Panther ID: _____

Quiz 08/28

MAC-2313

Fall 2018

Fill in the answer for each of the following. (2 pts each)

(a) Write the equation of the sphere with center at $(0, 0, 1)$ and of radius 2.

(b) Sketch (in 2-space) the vector $\mathbf{w} = \langle 3, -2 \rangle$ and compute $\|\mathbf{w}\|$.

(c) If $\mathbf{u} = \mathbf{i} - \mathbf{j}$ and $\mathbf{v} = \mathbf{i} - 2\mathbf{j} + 2\mathbf{k}$ are vectors in 3-space, compute the dot product $\mathbf{u} \cdot \mathbf{v}$.

(d) If $\mathbf{u} = \mathbf{i} - \mathbf{j}$ and $\mathbf{v} = \mathbf{i} - 2\mathbf{j} + 2\mathbf{k}$, find the angle θ between \mathbf{u} and \mathbf{v} .

(e) Sketch the surface $x^2 + z^2 = 1$ in 3-space and describe in words what it is.