Math 53 - Multivariable Calculus

Quiz # 2

September 8th, 2011

Exercise 1. *Find equations of the sphere with center* $(2, -3, 6)$ *that touches the xy-plane.*

Exercise 2. *Suppose the vector* $\vec{\boldsymbol{v}}$ *lies in the first quadrant of* $\mathbb{R}^2$ *and makes an angle* $\pi/3$ *with the positive x-axis and that* $|\vec{\boldsymbol{v}}| = 4$*, find* $\vec{\boldsymbol{v}}$ *in component form.*

Exercise 3. *For what values of* b *are the vectors* $\langle -6, b, 2\rangle$ *and* $\langle b, b^2, b\rangle$ *orthogonal?*