Please PRINT your name _____

No calculators, cell phones, computers, notes, etc.

Circle your answer. Make your work correct, complete, and coherent.

The quiz is worth 5 points. The solution will be posted on my website later today.

Quiz 3, January 27, 2020

Give the equation or equations which describe the set of points in which the plane through the point $(1,1,3)$ perpendicular to the z-axis meets the sphere of radius 5 centered at the origin.

Answer: The point $(1,1,3)$ perpendicular to the z-axis is $z = 3$. The sphere of radius 5 centered at the origin centered at the origin is $x^2 + y^2 + z^2 = 25$.

The intersection of $z = 3$ and $x^2 + y^2 + z^2 = 25$ is the set of all points in 3-space which satisfy both equations $z = 3$ and $x^2 + y^2 + z^2 = 25$.

An alternate correct answer is

The intersection of $z = 3$ and $x^2 + y^2 + z^2 = 25$ is the set of all points in 3-space which satisfy both equations $z = 3$ and $x^2 + y^2 = 16$.

We put a picture on a different page.