Fall 2017 Exam 2 11:40 number 3

The set of points in 3-space that

Satisfies both

$z = 4$ and $(x-1)^2 + (y-2)^2 + (z-3)^2 = 16$

is the circle which is the intersection of the plane $z = 4$ (parallel to the xy-plane but 4 units higher) and the sphere with center $(1, 2, 3)$ and radius 4:

This circle is the answer