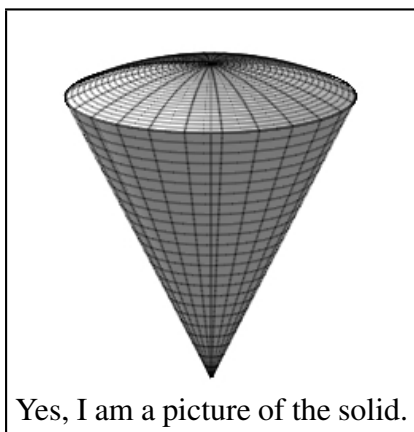# Math 241: Quiz 10

Show ALL Work   Name _____

1. Write down a triple integral *in cylindrical coordinates* that represents the volume of the solid inside the cone $z = \sqrt{4x^2 + 4y^2}$ and below the sphere $z = \sqrt{45 - x^2 - y^2}$.

Triple Integral in Cylindrical Coordinates:

[ ]

Yes, I am a picture of the solid.

2. Fill in the six boxes below to correctly complete interchanging the order of integration.

$$\int_0^4 \int_0^{(12-3x)/4} \int_0^{(12-3x-4y)/2} f(x, y, z)\, dz\, dy\, dx$$

$$= \int_{\boxed{}}^{\boxed{}} \int_{\boxed{}}^{\boxed{}} \int_{\boxed{}}^{\boxed{}} f(x, y, z)\, dx\, dy\, dz$$