

Print your name: \_\_\_\_\_

Score
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1. Use either cylindrical or spherical coordinates to find the mass of the region that is above the plane  $z = 0$ , outside of the cone  $x^2 + y^2 = z^2$ , and inside the sphere  $x^2 + y^2 + z^2 = 2$  and has density function  $z$ .

**BONUS** (worth 500 feel-special points, 0 class points): Write the same integral in spherical coordinates if you used cylindrical above, or vice versa.