

# MATH 362—Work Sheet 20

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NOT DUE

Name: \_\_\_\_\_

*N.B. This worksheet is not due!* We will focus on problems from the last worksheet, but here are a few “higher dimensional” situations worth considering.

1. Consider the uniform distribution on the unit sphere. Let  $\Theta$  denote the latitude (radians above the equator). Find the PDF for  $\Theta$ .
2. Consider the  $y$  coordinate of a point chosen uniformly at random on the unit sphere. Denote the resulting random variable by  $Y$ . Find the PDF for  $Y$ .