

Annie's Survival Kit 7 - Math 324

- (10 points) Let S be the surface $(x - 1)^2 + z^2 = 4$ with $0 \leq y \leq 1$.
 - (3 points) Draw S .
 - (3 points) Parametrize S .
 - (4 points) Find the area of S by solving a surface integral.
- (10 points) Let S be the surface $z - 1 = \frac{1}{2}\sqrt{x^2 + y^2}$ for $z \leq 3$.
 - (3 points) Draw S .
 - (3 points) Parametrize S .
 - (4 points) Find the tangent plane at the point $(1, 0, \frac{3}{2})$ of S without using the gradient vector.
- (10 points) Consider the surface S surrounding the solid given as the intersection of $z \geq x^2 + y^2 + 2$ and $x^2 + y^2 + (z - 2)^2 \leq 2$.
 - (3 points) Draw S .
 - (3 points) Parametrize S .
 - (4 points) Find the area of S by solving a surface integral.