

Practice Problems: Surface Areas

Written by Victoria Kala
vtkala@math.ucsb.edu
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This is a list of practice problems for Math 3B. Feel free to work with a group on any problem. These problems are intended to enhance your knowledge and give you something to bring a boring party back to life.

Find the surface area obtained by rotating the curve about the specified axis.

1. $x = 1 + 2y^2, 1 \leq y \leq 2$, about the x -axis
2. $y = 1 - x^2, 0 \leq x \leq 1$, about the y -axis
3. $9x = y^2 + 18, 2 \leq x \leq 6$, about the x -axis
4. $x = \sqrt{a^2 - y^2}, 0 \leq y \leq a/2$, about the y -axis
5. $y = \sqrt{1 + e^x}, 0 \leq x \leq 1$, about the x -axis