

MATH 211: 9-14 WORKSHEET

- (1) Use integration to derive the formula for the surface area of a sphere of radius r .
- (2) The curve $y = \cos x$ from $x = -\pi/2$ to $x = \pi/2$ is rotated around the x -axis to create a surface of revolution. Set up an integral to determine its surface area. (But please do not worry about evaluating the integral!)
- (3) The curve $y = e^x$ from $x = 0$ to $x = 1$ is rotated around the y -axis to create a surface of revolution. Set up an integral to determine its surface area. (But please do not worry about evaluating the integral!)