Name: _____

Volume: The Shell Method

Exercise 1: let R be the region between the graph of the function and the x axis on the given interval. Find the volume V of the solid generated by revolving R about the y axis

1 $f(x)=\sqrt{x^2+1};[0,\sqrt{3}]$

2. $f(x)=e^{2x+1};[0,1]$

3. $f(x)=\sqrt{x-1};\ [1,2]$

4. $g(x)=\ln x;\ [1,3]$

Exercise 2: let R be the region between the graph of f and the y axis on the given interval. Find the volume V of the solid generated by revolving R about the x axis.

1. $f(y)=y^2\sqrt{1+y^4};\ [0,1]$

2. $f(y)=\dfrac{1}{\sqrt{1-y^4}};\left[0,\dfrac{1}{2}\sqrt{2}\right]$