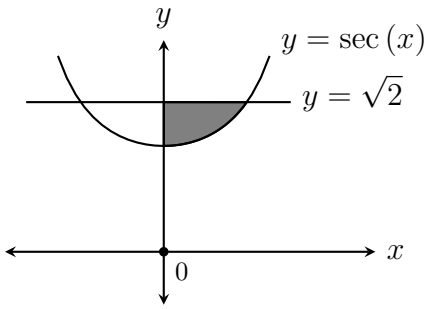
Name: _____

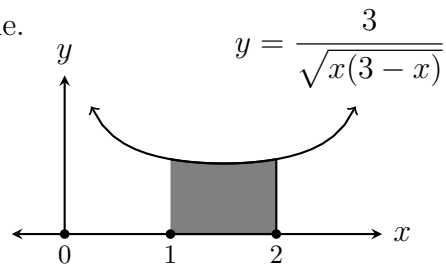
TEST 2
March 27, 2025

MATH 201
R. Hammack

1. Find the area of the shaded region.



2. The shaded region is rotated around the x-axis. Find the volume.



3. $\int \tan^4(x)\,dx =$

4. $\int x^5 \ln(x)\,dx =$

5. Use integration by parts to find $\int \sin^{-1}(x)\,dx$

6. $\int \frac{1}{\sqrt{9+x^2}}\,dx =$

7. $\displaystyle\int \frac{2}{x^3 - x}\, dx =$

8. $\displaystyle\int_0^\infty \frac{e^x}{e^{2x} + 1}\, dx \;=$

9. $\displaystyle\int \frac{1+\sin(x)+\cos(x)}{1+\sin(x)}\,dx =$

10. $\displaystyle\int x\sqrt{x-2}\,dx =$