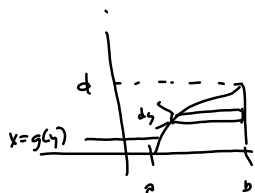


Find area by integrating wrt x .

Sketch
write Integral
Calculate Integral



Find area by integrating wrt y

Sketch
write Integral
Bonus - Calculate Integral

Solids of Rev.

about $y = \text{constant}$ $\pi \int_a^b y^2 dx = \pi \int_a^b (f(x))^2 dx$

about $x = \text{constant}$ $\pi \int_c^d x^2 dy = \pi \int_c^d (g(y))^2 dy$

$$\int f(x) dx \text{ vs } \int |f(x)| dx$$

Sketch complete graph of f & $|f|$

Sign Patterns

Eval. Indefinite Integrals

$$\int_a^b f' \text{ vs } \int_a^b |f'|$$

net change Total change

Differentiate. Do not simplify.
FTC I, Logarithmic Diff,

Number-crunching is inefficient. I'd get everything done that I could, WITHOUT a calculator. Leave plenty of room and come back to crunch #s.

$$f^{-1}, (f^{-1})' \begin{cases} \rightarrow \text{Directly} \\ \rightarrow \text{by Theorem: } (f^{-1})'(x) = \frac{1}{f'(f^{-1}(x))} \end{cases}$$

Related Rates

$$2-8 \quad \lim_{x \rightarrow c} (ax+b) = L$$

Implicit Diff.