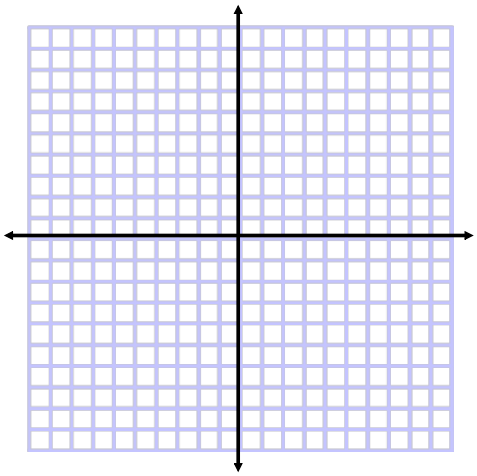
AP Calculus

Lesson 6-1 Continued

...sometimes equations are given in terms of y

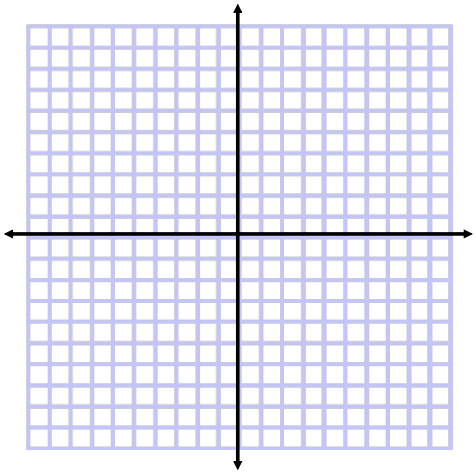
EXAMPLE 5 Horizontal Representative Rectangles

Find the area of the region bounded by the graphs of $x = 3 - y^2$ and $x = y + 1$.

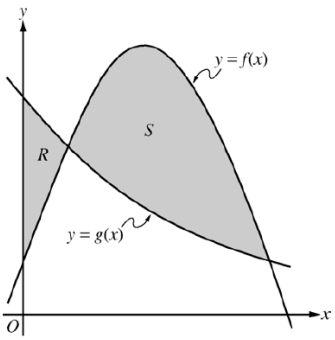


Using a Graphing Utility to Find Area of Region

Example 1: Sketch the graph of and find the region bounded by $y = \sqrt{x}e^x$ y = 0, x = 0, and x = 1.

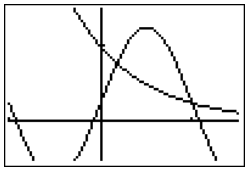


Example 2:



1. Let f and g be the functions given by $f(x) = \frac{1}{4} + \sin(\pi x)$ and $g(x) = 4^{-x}$. Let R be the shaded region in the first quadrant enclosed by the y-axis and the graphs of f and g, and let S be the shaded region in the first quadrant enclosed by the graphs of f and g, as shown in the figure above.

Find the area of R.



Find the area of S.