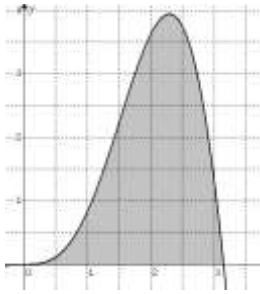
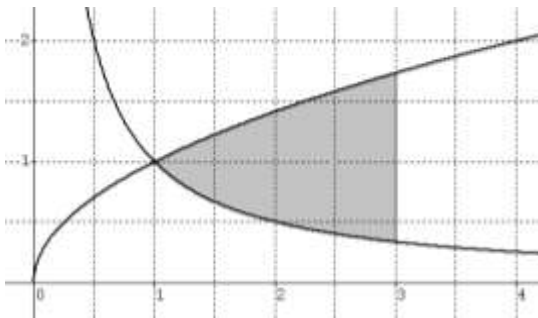


Set 038: Area Between Curves

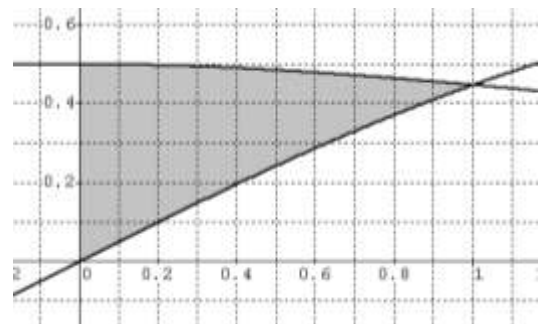
Set up and evaluate a definite integral to find each area.



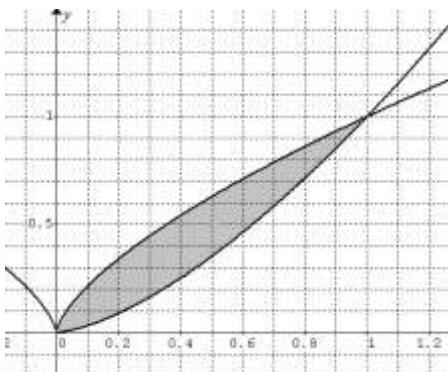
[1] The area between  $y = x^2 \sin x$  and the  $x$ -axis shown in the diagram.



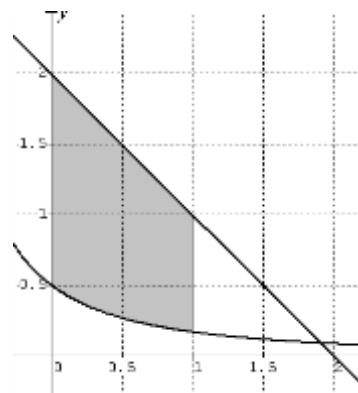
[2] The area bounded by  $y = \sqrt{x}$ ,  $y = \frac{1}{x}$ , and  $x = 3$



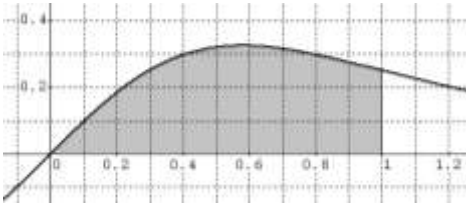
[3] The area bounded by  $y = \frac{1}{\sqrt{x^2+4}}$ ,  $y = \frac{x}{\sqrt{x^2+4}}$ , and  $x = 0$



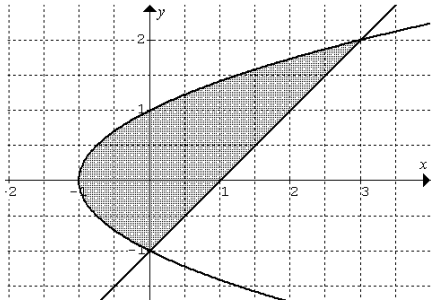
[4] The area between  $y = x^{\frac{2}{3}}$ , and  $y = x^{\frac{3}{2}}$



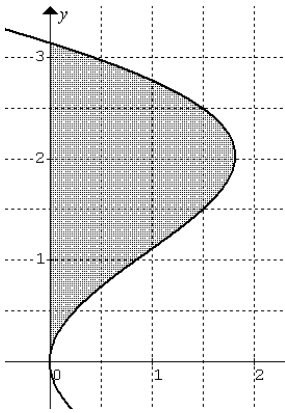
[5] The area bounded by  $y = 2 - x$ ,  $y = \frac{1}{x^2+3x+2}$ ,  $x = 1$ , and the  $y$ -axis.



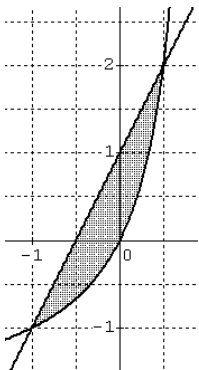
[6] The area bounded by  $y = \frac{x}{(x^2 + 1)^2}$ ,  $y = 0$ , and  $x = 1$  in the first quadrant.



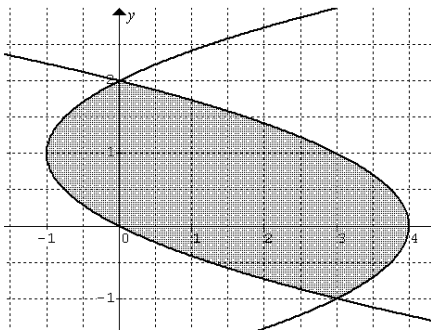
[7] The area bounded by  $x = y^2 - 1$  and  $x = y + 1$



[8] The area bounded by one arch of the curve  $x = y \sin y$  and the y-axis in the first quadrant.



[9] The area bounded by the curve  $x = \frac{y}{y + 2}$  and the line  $y = 2x + 1$



[10] The area bounded by the curves  $x = 4 - y^2$  and  $x = y^2 - 2y$