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Version B

Follow the directions on the previous page. The points labeled in the figure are as follows:

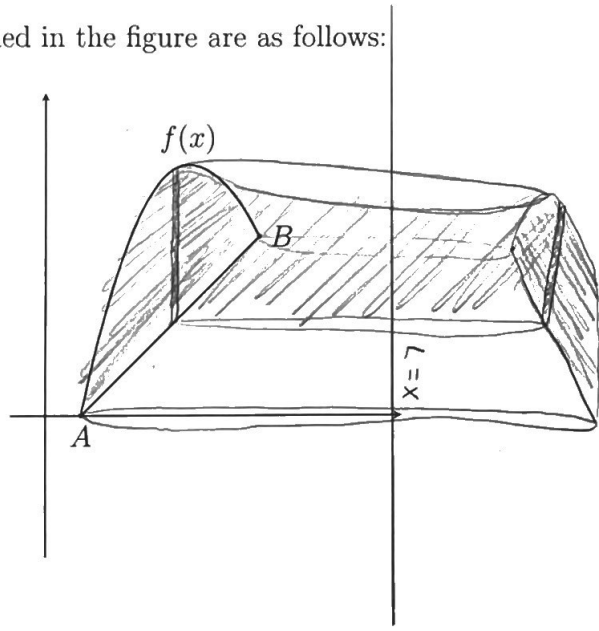
$A = (2, 0)$ $\quad m = \frac{y_2 - y_1}{x_2 - x_1}$

$B = (5, 3)$

$(y - y_1) = m(x - x_1)$

disk $= \pi x(f(x)^2 - g(x)^2)$

shell $= 2\pi x(f(x) - g(x))$



1

$m_{AB} = \frac{3-0}{5-2} = \frac{3}{3} = 1$

2

equation of a line for A to B

$y - 0 = x - 2$

$y = x - 2$

3 I chose the shell method to keep everything in terms of x. We have a boundary of 2 to 5 from Point A and B. $2\pi \int x(f(x) - g(x))$

$$2\pi \int_2^5 (7-x)(f(x) - x + 2)\,dx = 2\pi \int_2^5 7f(x) - 7x + 14 - f(x)x + x^2 - 2x\,dx$$

$$= 2\pi \int_2^5 x^2 - f(x)x + 7f(x) - 9x + 14\,dx$$

I Couldnt use the washer method because the function $f(x)$ in terms of x would break the Line test rule.