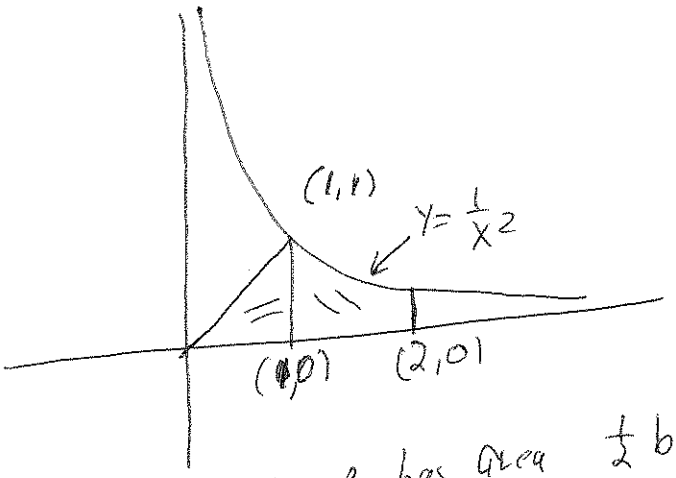
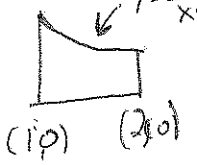
Find the area of the region in the first quadrant bounded by $y = x$, $x = 2$, $y = \frac{1}{x^2}$, and the x-axis



The triangle has area $\frac{1}{2}$ base height $= \frac{1}{2} \cdot 1 \cdot 1 = \frac{1}{2}$

The piece



has area $\int_1^2 \frac{1}{x^2}\,dx = -\frac{1}{x}\Big]_1^2 = -\frac{1}{2} + 1 = \frac{1}{2}$

The total area is $\frac{1}{2} + \frac{1}{2} = \boxed{1}$

The Quiz for January 26.

Quiz 5.