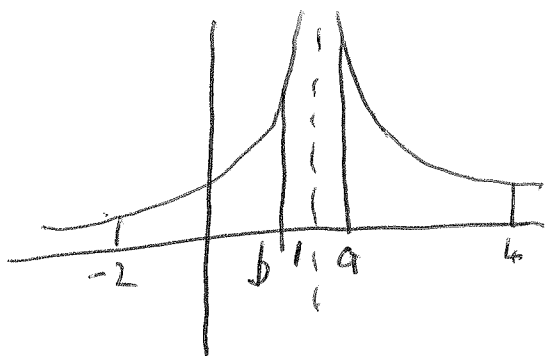


Problem 5, Exam 1, Math 142, Fall 2013



$$\int_{-2}^4 \frac{dx}{(x-1)^2} = \lim_{b \rightarrow 1^-} \int_{-2}^b \frac{dx}{(x-1)^2} + \lim_{a \rightarrow 1^+} \int_a^4 \frac{dx}{(x-1)^2}$$

$$= \lim_{b \rightarrow 1^-} \left[\frac{-1}{x-1} \right]_{-2}^b + \lim_{a \rightarrow 1^+} \left[\frac{-1}{x-1} \right]_a^4$$

$$= \lim_{b \rightarrow 1^-} \left(\frac{-1}{b-1} - \frac{1}{3} \right) + \lim_{a \rightarrow 1^+} \left(-\frac{1}{3} + \frac{1}{a-1} \right)$$

$$= +\infty + \infty$$

$$= \boxed{+\infty}$$

"The integral is not finite" is also an acceptable answer.