

## Logs and Exponents

a) Prove that for  $x > 1$ :

$$a \int_{1/x}^1 \frac{1}{t} dt = \int_{(1/x)^a}^1 \frac{1}{t} dt.$$

b) Assume  $x > 1$ . What is the geometric interpretation of the result of part a)?

c) What does this tell you about the area between the  $x$ -axis and the graph of  $\frac{1}{x}$  over the interval from 0 to 1?

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