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Q1. **Set up** (do not evaluate) an integral for the area of the region enclosed by  $x = y^2 + 2y$ , and  $x + y = 0$ .

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Q2. Find  $\int_2^4 \frac{dx}{x \log_2 x}$

- Q1. **Set up (do not evaluate)** an integral for the volume of the solid whose base is bounded by  $y = \ln x$ ,  $y = 1$ , and  $x = 4$  and its cross sections perpendicular to the  $y$ -axis are semicircles.

Q2. Find  $\int_1^2 2^{\ln x} dx$