Quiz #11
Math 221

Instructions. Be sure to show your work and explain your reasoning for full credit.

NAME ____________________

Compute.

1. \[ \int_0^a x \sqrt{x^2 + a^2} \, dx \quad (a > 0) \]

2. \[ \int \frac{dx}{x \sqrt{\ln x}} \]

3. Write down an integral for the area bounded by the curves \( y = 12 - x^2 \) and \( y = x^2 - 6 \).
   You do not need to evaluate the integral.