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Quiz – January 20, 2004

Find $\int \frac{2\ln x}{x} dx$. Check your answer.

Answer: Let $u = \ln x$. It follows that $du = \frac{dx}{x}$. The original problem is equal to

$$\int 2udu = 2\frac{u^2}{2} + C = \boxed{(\ln x)^2 + C}.$$

Check: The derivative of the proposed answer is $2(\ln x)\frac{1}{x} \checkmark$.