

Math Diversion 486

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It's the simple things in life that you treasure.

— Fred Kwan
Galaxy Quest

Title: An Instructive Little Integral
Presenter: Patrick

1 The Problem

Find the indefinite integral

$$I = \int \frac{dx}{x \ln x}. \quad (1)$$

2 The Solution

The instructive part of this integration is to learn how to do a lot without introducing unnecessary temporary variable changes.

$$I = \int \frac{dx}{x \ln x} = \int \frac{d(\ln x)}{\ln x} = \ln(\ln x) + C, \quad (2)$$

where C is an arbitrary constant.