Feedback

On 102.46, Nick Lord writes: Can I offer the following as a slightly simpler version of this type of proof that the harmonic series diverges?

$$\begin{aligned}\sum_{k=1}^{n}\frac{1}{k} &= \int_0^1 \left(1 + x + \ \ldots \ + x^{n-1}\right) dx \\ &= \int_0^1 \frac{1 - x^n}{1 - x} dx \\ &> \int_0^{2^{-1/n}} \frac{\frac{1}{2}}{1 - x}, \text{ since } 1 - x^n > \tfrac{1}{2} \text{ for } 0 < x < 2^{-1/n} \\ &= -\frac{1}{2}\ln\left(1 - 2^{-1/n}\right) \\ &\to \infty \text{ as } n \to \infty, \text{ since } 2^{-1/n} \to 1 \text{ as } n \to \infty.\end{aligned}$$

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In the pipeline for July 2019

Notes on locating parameters of interest in a conic section	*John D. Mahony*
Teaching proofs without words using dynamic geometry	*Moshe Stupel*
A hyperbolic proportionality theorem and hyperbolic surveying problems	*Robert L. Lamphere*
New points that belong to the nine-point circle	*David Fraivert*
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