# Problem of the Week 7: Another Infinite Sum

The series

$$\sum_{n=1}^{\infty} \frac{n^2}{2^n}$$

can easily be shown to be convergent. (Remember tests for convergence from Calculus). For this series, we can do even better: we can actually find its exact sum.

Can you do that? Show how you obtained your answer. [1]

---

[1] Posted: 11/29/04 Submit your answers (by e-mail or hard copy) before 4 pm on 12/10/04 to Noah Aydin, Mathematics Dept.