

Problem of the Week-7: An Infinite Sum

Find the exact value of the sum

$$\sum_{n=1}^{\infty} \frac{n^2}{3^n}$$

As always, show your steps and explain your answer.

Posting Date 4/16/11. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by 4 pm on 4/29/11.