



LEWIS AND CLARK COLLEGE
Department of Mathematical Sciences

PUZZLE OF THE WEEK (2/17/2017 - 2/22/2017)

Let A be a matrix with $A^3 = 0$. Does there exist a matrix B such that $e^B = I + A$? Justify your claim. Here I denotes the identity matrix, and e^B stands for

$$e^B = I + B + \frac{1}{2}B^2 + \frac{1}{6}B^3 + \dots + \frac{1}{n!}B^n + \dots$$

-
- Correct solutions of the Puzzle of the Week #4 were submitted by: Leo DiGiosia, Chris Karagiannis, Myka Martin, Fisher Ng and Sam Raphael. Congratulations!
 - One possible complete solution of the Puzzle #4 is posted online. (Look for the Puzzle of the Week announcements on the departmental webpage.)
 - Solvers should include their full name and some kind of a contact information. Solutions should be submitted to **Iva Stavrov** in BoDine 305; email submissions are encouraged (istavrov at lclark). Solutions should be received by the end of the day on **February 22nd, 2017**.