



LEWIS AND CLARK COLLEGE

Department of Mathematical Sciences

PUZZLE OF THE WEEK (11/16/2016 - 11/22/2016)

Suppose $X : \mathbb{N} \rightarrow \mathbb{R}$ is a random variable with $E[X^2] = 1$ and $E[X^4] = 2$. (Here $E[Y]$ denotes the expectation of the random variable Y .) Determine the largest possible value of $E[X^3]$, and justify your claim.

- Many solutions of Puzzle #11 were submitted, but unfortunately none of them were correct. One possible solution of the puzzle is posted online. (Look for the Puzzle of the Week announcements on the departmental web-page.)
- Solvers of this week's puzzle should include their name, address, and status at the College. 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 **Tuesday, November 22nd 2016**.