

Math 6980 Homework # 14, Assigned 2/23/06, Due 2/28/06

1. Let $\lambda, \alpha \vdash d$. The *Durfee size* of a partition λ is the number of diagonal squares (i, i) in its shape (i.e. the size of the largest square that fits inside the Young diagram.) Suppose λ has Durfee size D and suppose α has $< D$ parts. Show using the Murnaghan-Nakayama rule that:

$$\chi^\lambda(\alpha) = 0$$

2. Write down the complete addition and multiplication table for a field of 8 elements and a field of 9 elements.

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