

Math 4550 Hints for questions for Feb. 24, 2009

1. Choose the vertices in \mathbb{R}^{2d+1} so that every subset of cardinality $2d + 2$ is affinely independent. (Why is this possible?)
2. Show that if Δ' is obtained from Δ by an i -shelling step then there is a *unique* minimal new face in Δ' and it has cardinality i . Then all new faces.....
3. The formulas are linear combinations which involve binomial coefficients coming from $f_{\Delta}(t) = h_{\Delta}(t+1)$ and $h_{\Delta}(t) = f_{\Delta}(t - 1)$.
4. Use the previous problem and last week's formulas.
5. Good luck! Ok, on a more practical note, maybe looking at small d gives a clue as to what is happening.