

Math 4550 HW due April 16, 2009

1. For which $d \geq 1$ (if any) is Δ^d combinatorially equivalent to a zonotope?
2. Explicitly write down the face poset of the zonotope in \mathbb{R}^3

$$Z = [-\vec{e}_1, \vec{e}_1] + [-\vec{e}_2, \vec{e}_2] + [-\vec{e}_3, \vec{e}_3] + [-(\vec{e}_1 + \vec{e}_2 + \vec{e}_3), (\vec{e}_1 + \vec{e}_2 + \vec{e}_3)].$$

3. Explicitly write down the face poset of Z^Δ where Z is from the previous problem.