1063-05-255 **Zoltan Furedi*** (z-furedi@illinois.edu), Department of Mathematics, 1409 W Green Str, Urbana, IL 61801. *Large B_d-free subfamilies.*

Let $f(\mathcal{F}, \Gamma)$ denote the size of the largest subfamily of $\mathcal{F}$ having property Γ, $f(\mathcal{F}, \Gamma) := \max\{|\mathcal{F}'| : \mathcal{F}' \subseteq \mathcal{F}, \mathcal{F}'$ has property $\Gamma\}$. Let $f(m, \Gamma) := \min\{f(\mathcal{F}, \Gamma) : |\mathcal{F}| = m\}$. First, we consider the case when Γ is the property that there are no four distinct sets in $\mathcal{F}$ satisfying $F_1 \cup F_2 = F_3$, $F_1 \cap F_2 = F_4$. Such families are called B_2-*free*. In 1972 Erdős and Shelah conjectured that $f(m, B_2\text{-}free) = \Theta(m^{2/3})$. We prove that Erdős and Shelah's conjecture is true and establish some general lower and upper bounds on $f(m, B_d\text{-}free)$, where B_d is the Boolean lattice of dimension d. This is a joint work with Janos Barat, Ida Kantor, Younjin Kim, and Balazs Patkos. (Received August 17, 2010)