

MATH 412: TOPICS IN ALGEBRA
HOMEWORK DUE FRIDAY WEEK 10

Problem 1. For $\lambda \in k^\times$, determine $G(2 \langle \lambda \rangle)$ and $G(4 \langle \lambda \rangle)$.

Problem 2. For any Pfister form f , show that $\langle\langle \lambda \rangle\rangle \otimes f \cong \langle\langle \mu \rangle\rangle \otimes f$ if and only if $\lambda\mu \in D(f)$.

Problem 3 (Bonus). Show that if n is a power of 2, then

$$D(n \langle 1 \rangle) \cdot D((n+1) \langle 1 \rangle) = D(2n \langle 1 \rangle).$$