Dr. A. Betten Spring 2006

M502 Combinatorics II

exercise sheet # 2

Exercise # 1 (3 points)

In the language of the lecture, is the Petersen graph isomorphic to the complement of $T(5)$, the triangular graph of order 5?

Exercise # 2 (3 points)

In the language of the lecture, is

$$L_2(3) \simeq P(9)?$$

That is, is the graph of a 3×3 grid isomorphic to the Paley graph of order 9?

Exercise # 3 (4 points)

Let q be a prime power with $q \equiv 1 \bmod 4$. Is the Paley graph $P(q)$ self-complementary, i.e. isomorphic to its complement? Hint: observe that the statement is true for $P(5)$. Then check if the parameters work out in general.

due to Monday, 2/13/06.