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 $3 \times 3$ grid isomorphic to the Paley graph of order 9?

Exercise # 3  (4 points)
Let $q$ be a prime power with $q \equiv 1 \mod 4$. 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.