Mathematics 2602
Quiz 4
Prof. Margalit
28 September 2011

1. There are seven knights: Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. In how many ways is it possible for the seven knights to sit at a round table if Friday and Saturday insist on sitting together? (As usual, two configurations that differ by a rotation are considered to be the same.)

By grouping Fri and Sat together, there are actually 6 units on the circle. Totally there are $\frac{6!}{6}$ ways to arrange them. Fri and Sat have 2! relative positions, i.e. Fri on the left or right of Sat. Therefore.

$$\# \text{ ways} = \frac{6!}{6} \cdot 2!$$