

If B_n is the group of upper triangular invertible matrices, O_n is the orthogonal group, SO_n is the special orthogonal group (n means that the matrices are $n \times n$), and F_p is the prime field, compute the orders of the groups:

a) $B_n(F_p)$;

b) $O_2(F_7)$;

c) $O_3(F_2)$;

d) $SO_3(F_3)$.