

**MATH 300. INTRODUCTION TO
MATHEMATICAL REASONING.
FALL 2015.
WEEK 5 (LECTURE 8,9).
PROOFS; PREDICATES (BEGINNING).**

1. Reading: Sections 1.7,1.3.
2. Home assignment (Due Monday, October 5) (to submit).
 - Sect.1.7: $2(a,b,c,e), 4(a,b), 7a, 9(a,b,f)$.
 - Sect.1.3: $1(c,d,f,g,n,o), 5, 6(b,c,d), 8(a,g), 9(a,c)$.
 - Extra problems: 1) This problem is connected with our Theorem about numbers from only "9".
 - a) Find l at this Theorem for $p = 3, 11, 37$.
 - b) Prove that a number n has in the division on $p = 3, 9$ the same remainder as the sum of its digits.
 - c) State and prove a similar Theorem for $p = 11$.
 - 2) A student lost a part of a book. He remarked that the number of the first page in the lost part was 183 and the number of the last page was composed from the same digits. How many pages were lost?