

Math 312, Section 102

Homework #9

due Tuesday, November 20, 2001 at the beginning of class

- I. Calculate $\phi(n)$, $\tau(n)$, and $\sigma(n)$ for $n = 291, 292, \dots, 300$.
- II. Rosen, Section 6.3, p. 218, #12
- III. Rosen, Section 6.3, p. 219, #16
- IV. Suppose that the last digit of the integer n is 1, 3, 7, or 9. Prove that n divides some number all of whose digits equal 9. (Hint: first find an algebraic expression for the d -digit number with all digits equal to 9.)
- V. Rosen, Section 7.1, p. 228, #18
- VI. Rosen, Section 7.1, p. 229, #30