[40] **Homework 7**: *Basic Number Theory*

[10] Compute 615^{31} **mod** 713.

[10] Prove that 937 is an inverse of 13 modulo 2436.

[10] Solve $13x = 5$ mod 2436.

[15] Encrypt the message CRYPTO using the RSA system with $n = 43 \cdot 59$ and $e = 13$, translating each letter into integers (where $A = 00$, $B = 01, \ldots Z = 25$) and grouping pairs of integers, as we did in class.