Cristina Ramos **Homework 12** **Due 12-06-2013**

1. (a) Determine if 570675898156907104592056182349083912799274721336794383726545857890942377867682129373566157980994205088840722522515447416802552176083452974 1 is prime or composite. If its composite, 100 bonus points for factoring it

   (b) Determine if 707546665388175027917666130519823082307137834356781848321770175388155965207081922117904409653450735827928437065105841918859435194707522038 39 is prime or composite. If its composite, 100 bonus points for factoring it

2. Suppose you recover the following message fragment: 275266897870022962153888775303395280852566580005188785241845329818186424929449874115335389601346616362234361761280450924750473854280567833743838365535775 12 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 516713712327589060664607206052159033483985324368264665410663583319076479013116508392062542119384625584863274600650126708292711273379232542595371895502081 29$ and private keys: $p = 2960803099300286791384021873009833222018104161537584595167367326806244448771$ and $q = 2559937799091580853499759755835544419097014275056019195792108302911775221883 3849$.

3. (a) Express the number 777 in binary.

   (b) What number has the hexidecimal expression $1b9c7d$.