

1. (a) Determine if 55432531551516046521957941346804330714662218663953952879695324963273132951599516934717649218923712293349066635977353632243472184158886969169 is prime or composite. If its composite, 100 bonus points for factoring it
- (b) Determine if 52624430826946650479391355097869622036308921427961171769304710832016575919975480618202058259850163688903715866200362231541457433985950266481 is prime or composite. If its composite, 100 bonus points for factoring it
2. Suppose you recover the following message fragment: 208795394507286540550211268814517511023326164384821499963010085740507596934926325718373922253916082719073021681139665625540459202973745668449786185611190593892 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 230384432973450367044581681147828921026659016326781581793496000505999234154261887984648470474218264338495474981107405038028068384128770887437611096840190221189$ and private keys: $p = 8949751874446463295125517502915543206512917762263847246061996613516749889538523$ and $q = 37320399473505628933294934191516092067867863071513934237813158563053566337335239$.
3. (a) Express the number 867 in binary.
- (b) What number has the hexadecimal expression 1048ce.