

1. (a) Determine if 27486350108384750173317597393866930433555138772505998664982755170872403431367820784044919131834147973297737361700967753780916693637523194853 is prime or composite. If its composite, 100 bonus points for factoring it
- (b) Determine if 57148348640068540323581554390936821368420688024605959997698992940637424283477722348683097711921289293686588985885233683151053424396505087623 is prime or composite. If its composite, 100 bonus points for factoring it
2. Suppose you recover the following message fragment: 1142326329687684899361158798072346002487950089741063882894295640422479017249827814306893325528958608444483912891681176953441362649864812425266210405481851875103 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 883189405091657423433046222834165262901644957723696218993845349091503788201237184367207379686117765884838679367292724615802400211304367442073895239793872626427$ and private keys: $p = 26588969065738795320659426608216554146299439876364923416850657825222819459805649$ and $q = 98975026116878727041203069666664525283262905277093065386670300908117744360001653$.
3. (a) Express the number 968 in binary.
- (b) What number has the hexadecimal expression $16cef5$.