

1. (a) Determine if 18914263925019305658671443214560719240272912923580126934514137073676014938139940752394437393493501075107505880709695018008766872361512440363 is prime or composite. If its composite, 100 bonus points for factoring it
- (b) Determine if 11381947695976970794159481874092834760235225832453515740771243352645300204371860934230369756154238722289799784356679588944499110816294302231 is prime or composite. If its composite, 100 bonus points for factoring it
2. Suppose you recover the following message fragment: 1465682886829366325142502410169118248066092898413354192917872785221667298990228973801844638162709270967588090044951590941570140851862735955881371675297237624129 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 1199498234299484178499557828249118118821251010315312217417736545854286299147138644003160245945636209115222372069541167149128876254213237733068341180660775875407$ and private keys: $p = 36213837487813684287092504710885781751658186881209400310672402912027824322550221$ and $q = 47674976798479323027037355166594461762280999730660665167632016656896372750625337$.
3. (a) Express the number 549 in binary.
- (b) What number has the hexadecimal expression $1780eb$.