

1. (a) Determine if 60656916407786487451858841484141344660765217692498433699561398495299290744747502761393740384994170466657691337074590300651930495894764221789 is prime or composite. If its composite, 100 bonus points for factoring it
- (b) Determine if 22417825948899193170098100702896587136916842214698307360749671355811900468476918488751056674143951394053707761913965120861505295750380799131 is prime or composite. If its composite, 100 bonus points for factoring it
2. Suppose you recover the following message fragment: 1060374341601884853313047156050951375496161405660450354397631607262174064255142326760986552240112291652994006762875981627784935546950100818602851196756478045901 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 550334697359594269603257915006001328422798981435051246860662727592287096697283244460642534206942691717133156728806924319921545794054868419800896990479530193977$ and private keys: $p = 43276043690402665099053698601479396465443977640920442933787134075074299396059597$ and $q = 25040004766048379367339829306474482852214977945995957850823949593583878886149871$.
3. (a) Express the number 687 in binary.
- (b) What number has the hexadecimal expression $12e4c4$.