

1. (a) Determine if 7982452258954769021965690303873874254438378986533782528107876440392428389082456712287126878089935600335439924982551173803774476436795124203 is prime or composite. If its composite, 100 bonus points for factoring it
- (b) Determine if 87943717510954712683308873995755066626528254871829780594540620873809992892589045134548960903408148361146941991059419185432379214175678820307 is prime or composite. If its composite, 100 bonus points for factoring it
2. Suppose you recover the following message fragment: 2686318984951959516483894499211583072035788925508673194956875978701371951505052552788596371452214947043435027844863858324769488403204658233268228607273054153046 from Alice to you. Decipher it knowing it was enciphered with RSA and enciphering key $e = 1324357832388893296412010603050803584887198465451929630638401042128001674719444691884505795985962992309180457327150032097140658431318698451819253417286499996459$ and private keys: $p = 44307977982838205552443623142982456020976788410447910441284074909653153140782803$ and $q = 73560127082063933813763171649300650414257527489653563390765613057121651991132927$.
3. (a) Express the number 906 in binary.
- (b) What number has the hexadecimal expression $1dcac9$.