

1. Bob is using RSA to allow people to send him encrypted messages. He publishes his public key $(e, N) = (69, 187)$.

(a) Use the fact that $N = 11 \cdot 17$ to compute the value of ϕ .

(b) Use e and ϕ to compute Bob's decryption key d .

2. Give the decimal representation of the binary number $(110101)_2$.

3. Give the base 7 representation of the decimal number 103.