

1. Decipher the message:

HLGC SORH GONN WX

knowing it was encoded with an affine cipher with key $a = 9$ and $b = 17$.

2. Suppose $d = \gcd(65128, 62440)$.
 - (a) Find d
 - (b) Find k, l such that $d = 65128 \cdot k + 62440 \cdot l$.
3. For each of the following find $a^{-1} \pmod{m}$ or explain why no such inverse exists. That is, find c such that $ac \equiv 1 \pmod{m}$.
 - (a) $a = 1343, m = 1742285$
 - (b) $a = 749583, m = 234802$.
4. (Wait until Wednesday) Find $\phi(8721000)$
5.
 - (a) Get a picture of you with Globalization RA, PA (other than CaroLynn) or professor (other than me).
 - (b) Get a picture of a place to buy food on campus that you have never bought food at.