Time to remember some ideas from the fall

1. Use the Euclidean Algorithm to find $\gcd(3308, 12)$
   How many steps did it take?

2. Use the Extended Euclidean Algorithm to write $3308 \cdot u + 12 \cdot v = \gcd(3308, 12)$

3. Find an upper bound on the number of steps needed to apply the Euclidean Algorithm to determine:
   (a) $\gcd(14\,234,\ 12)$
   (b) $\gcd(97,\ 390\,172)$
   (c) $\gcd(129,\ 413\,183\,772\,139)$

   Note that you do *not* need to actually apply the EA!

1. (a) List the elements of $\mathbb{Z}/8\mathbb{Z}$
   (b) List the elements of $(\mathbb{Z}/8\mathbb{Z})^*$
   (c) Find the order of each element in $(\mathbb{Z}/8\mathbb{Z})^*$
   (d) Find the inverse of each element in $(\mathbb{Z}/8\mathbb{Z})^*$

2. (a) List the elements of $\mathbb{F}_7$
   (b) List the elements of $\mathbb{F}_7^*$
   (c) Find the order of each element in $\mathbb{F}_7^*$
   (d) Find the inverse of each element in $\mathbb{F}_7^*$