

Find the greatest common divisor of 414 and 662 using the Euclidean algorithm.

Express $\gcd(252, 198) = 18$ as a linear combination of 252 and 198.

Determine whether 17 is congruent to 5 modulo 6 and whether 24 and 14 are congruent modulo 6.

Use the definition of addition and multiplication in \mathbf{Z}_m to find $7 +_{11} 9$ and $7 \cdot_{11} 9$.
