

Homework 2, due September 8

- (1) Show that if $a|n$, $b|n$, and $\gcd(a, b) = 1$, then $ab|n$.
- (2) Compute $\gcd(455, 1235)$ and $\gcd(2415, 6909)$ by hand. Find integers x, y, z, w such that $455x + 1235y = 65$ and $2415z + 6909w = 63$.
- (3) Let a and b be integers. Using the definition of congruence modulo n , prove that $a \equiv b \pmod{n}$ if and only if $a^2 + b^2 \equiv 2ab \pmod{n^2}$.
- (4) TIFSYCUG YIVSCYIT B XBYUCFSLBY KCPJTU TIFSYCUG XYEHTTCEPBLT BU LIBTU
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