Homework 2, due September 4

(1) Show that if $a|n, b|n$, and $\gcd(a, b) = 1$, then $ab|n$.
(2) Say that a positive even integer is "prime-even" if it cannot be written as the product of two smaller positive even numbers. Show that unique factorization into prime-evens fails for the positive even numbers.
(3) TIFSYCUG YIVSCYIT B XBYUCFSLBY KCPJTIU TIFSYCUG XYEHITTCEPBLT BU LIBTU URI ZEEJ EPIT TII URI MEYLJ JCHHIYIPULG URIG FBPU MBLO CPUE B TUEYI MCURESU PEUCFCPZ REM URIG KCZRU TREXLCHU URIG FBPU STI B FEKXSUIY MCURESU MEPJIYCPZ BNESU URI TIFSYCUG DSLPIYBNCLCUCIT URIG FBPU DEUI MCURESU UYGCPZ UE HCZSYI ESU REM UE DEUI UMCFI URIG QSTU FBPU RILX CU URCT OCPJ EH URCPOCPZ CT PEU PBUSYBL HEY KETU XIEXLI CUT PEU PBUSYBL HEY IPZCPIIYT ZEEJ IPZCPIIYCPZ CPDELDIT URCPOCPZ BNESU REM URCPZT FBP NI KBJI UE MEYO URI TIFSYCUG KCPJTIU CPDELDIT URCPOCPZ BNESU REM URCPZT FBP NI KBJI UE HBCL CU CPDELDIT URCPOCPZ LCOI BP BUUBFOIY BP BJDIYTBYG EY B FYCKCPBL GES JEPU RBDI UE IAXLECU URI DSLPIYBNCLCUCIT GES HCPJ NSU CH GES JEPU TII URI MEYLJ URBU MBG GESLL PIDIY PEUCFI KETU TIFSYCUG XYENLIKT