

**Math 314 - Fall 2023**

**Practice problems 2 (Euclid's Algorithm)**

Quiz: Sept 26 2023

*Few false ideas have more firmly gripped the minds of so many intelligent men than the one that, if they just tried, they could invent a cipher that no one could break.*

— David Kahn

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**Practice:**

- (1) Compute  $\gcd(58, 27)$  using Euclid's algorithm.
- (2) Find  $x$  and  $y$  so that  $28x + 89y = 1$ .
- (3) Find the inverse of 17 modulo 45.