

**Math 314 - Fall 2023**

**Practice problems 3 (Exponents)**

Quiz: October 26 2023

*It used to be expensive to make things public and cheap to make them private. Now it's expensive to make things private and cheap to make them public.*

— Clay Shirky

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**Practice:**

- (1) Compute  $3^9 \pmod{11}$  without using a calculator.
- (2) Find  $5^{34} \pmod{17}$  without using a calculator.
- (3) Find the decryption function  $D(y)$  corresponding to the encryption function

$$E(x) \equiv x^9 \pmod{29}.$$