

# Reading Quiz §1

1. [3] True/False: If the statement is *always* true, give a *brief* explanation of why it is (not a formal proof!). If the statement is false, give a counterexample.

(a)  $8 \nmid 56$

(b)  $\gcd(2^3 \cdot 3^2 \cdot 5^2 \cdot 11 \cdot 29^5, 2 \cdot 3^3 \cdot 11 \cdot 29^3) = 2 \cdot 3^2 \cdot 5^2 \cdot 11 \cdot 29^3$

(c)  $\text{lcm}(2^3 \cdot 3^2 \cdot 5 \cdot 7^2 \cdot 37^4, 2 \cdot 3^3 \cdot 7^3 \cdot 37^5) = 2^3 \cdot 3^3 \cdot 5 \cdot 7^3 \cdot 37^5$

2. [1] Identify one application of the division algorithm described in the text.

3. [1] Identify one situation discussed in the text where we use modular arithmetic.