

**Fall 2020 CIS 3362 Homework #5 Grading Criteria (100 pts)**

- 1) 12 pts - give full credit if correct, 2 pts per term.
- 2) 12 pts - give full credit if correct, 2 pts per term, should be multiplied out. (Take off 1 pt if terms shown but not multiplied out.)
- 3) 15 pts - 5 pts for factoring out  $p^n$ , 5 pts for recognizing that when you factor all of those out, you get  $n$  on the outside, 5 pts for correctly showing  $(p-1)/p$  as what's left when factoring out.
- 4) 10 pts - 3 pts for stating the fact that  $7^{96} \equiv 1 \pmod{967}$ , 3 pts for appropriately rewriting the exponent given, 4 pts for splitting off  $7^4$  and reducing it via mod.
- 5) 15 pts - 5 pts for finding  $\phi(3104)$ , 3 pts for stating that  $99^{1536} \equiv 1 \pmod{3104}$ , 3 pts for rewriting the exponent given, 4 pts for splitting off  $99^2$  and reducing it under mod.
- 6) 36 points

Header Comment - 1 pt

Internal Comments - 2 pts

General Style - 2 pts

Program Reads in an integer - 1 pt

Composites identified - 10 pts (test these five composites: 143, 169, 512, 713, 961), 2 pts for Getting each of these cases.

Primes identified - 10 pts (test these five primes: 17, 31, 101, 607, 997) two pts per case

List of Primitive Roots - 10 pts, 2 pts per list, use the same five primes as above.