

**COT 3100 Fall 2022 - Homework #4 Grading Criteria**

- 1) 8 pts - 2 pts Euclidean, 4 pts Extended, 1 pt mult 3, 1 pt all solutions
- 2) 12 pts - (a) 2 pts Euclidean, 4 pts Extended, 1 pt base sol, 1 pt all sols  
(b) 2 pts - 1 pt mult base, 1 pt listing all sols properly  
(c) 2 pts - 1 pt take mod 144, 1 pt read off answer
- 3) 4 pts - 2 pts gcd, 2 pts lcm
- 4) 6 pts - 2 pts each part
- 5) 6 pts - 2 pts # zeros at the end of 3000!, 2 pts # zeros end of 1500!, 2 pts reasoning answer
- 6) 9 pts – 4 pts - Explaining, why, by definition  $\gcd(a, b, c) \mid \gcd(a, b)$ .  
4 pts – Setting up  $\gcd(a, b) = x\gcd(a, b, c)$ , etc.  
1 pt – plugging in and arguing that  $xyz \geq 1$  so it proves it  
No points for the intuition behind when equality occurs. Just tossed it out there for fun.
- 7) 5 pts - Grade like the last bio, as long as it's reasonable and has the details I asked for, give full credit.