

Fall 2018 COT 3100 Homework #3 Grading Criteria - Total 20 points

Three questions to grade carefully:

Question #1 (5 pts)

Question #3 (5 pts)

Question #5 (5 pts)

Q1 (5 pts) - 2 pts for either stating that they must show $n \mid (b^3 - a^3)$ or that $b = a + nk$ for some integer k . 2 pts for either multiplying out or factoring, depending on what's relevant, 1 pt for finishing.

Items to comment upon: Point out any issues with notation ($=$ vs \equiv or incorrect use of \mid), as well as any incorrect or irrelevant algebra.

Q3 (5 pts) - 1 pt a piece, hopefully there isn't much to comment on, if they get two wrong for small partial errors, just take off 1 pt total instead of 2. Comment only if the process they are using is not the correct one.

Q5 (5 pts) - Quite a few ways to do this, so you have to carefully read each response and grade accordingly, but roughly speaking, one key realization is that $10 \equiv 1 \pmod{9}$ or that $10 = 9 + 1$. 2 pts for this realization, 2 pts for its substitution and simplification, 1 pt for finishing off the problem.

Items to comment upon: Depends on what they write, make sure they complete the if and only if of the proof, so both directions.

Questions 2, 4, 6 and 7 - very quickly eyeball and award 0, 1, 2, 3, 4 or 5 points out of 5. Only give full credit if all 4 questions are answered and #4 and #6 are correctly answered (this should be very fast to check).