Final Examlet Example Rubrics

Table 1: Inequality claim (12 points)

Criteria	Mastered (3)	Proficient (2)	Novice (1)	Absent (0)
Logical flow	proof assumes hypothesis to be true and reaches conclusion; in logical order	small issue with logical order (ends one step before conclusion)	large issue with logical order but not entirely backwards	largely backwards
Handling inequalities	chain of equations is handled correctly; any extra bounding is done correctly	small issue with chain of equations	missing an important bound	inequalities handled completely incorrectly
Algebraic details	all other algebraic details correct	other minor algebraic issue	other major algebraic issue	algebra completely incorrect
Overall communication and style	good connector words; easy to follow	slightly difficult to follow	multiple style issues	very difficult to follow

DO NOT DO AN ENTIRE INEQUALITY INDUCTION PROOF!!! You will lose at least 2 points.

Table 2: Onto or one-to-one proof (10 points)

Criteria	Mastered (4)	Proficient (3)	Novice (2-1)	Absent (0)
Proof outline	the proof outline matches the correct definition	small bug in proof outline (no variable declaration, etc.)	many bugs, or outline not in logical order	completely incorrect, OR proved onto when asking for one to one or vice versa

Criteria	Mastered (3)	Proficient (2)	Novice (1)	Absent (0)
Details (structural/algebraic)	proof is able to get to the conclusion via the important structural/algebraic fact (e.g., another function g is onto)	missing some algebra or small structural error	large algebra or structural error	unable to reach conclusion because proof doesn't use major facts to reach it
Style and clarity	easy to follow	slightly hard to follow, not enough connector words	difficult to follow due to too much unnecessary detail	very difficult to follow, no connector words

Table 3: Set inclusion proof (10 points)

Criteria	Mastered (4)	Proficient (3)	Novice (2-1)	Absent (0)
Proof outline	recommended proof technique is used, and begins with variable declaration	missing variable declaration	some issue with proof outline	proof largely backwards or does not follow outline at all

Criteria	Mastered (3)	Proficient (2)	Novice (1)	Absent (0)
Details (definitions/algebra)	all algebra is correct and set elements follow definitions	small set definition/algebra error	large algebra or definition error	set elements or algebra completely incorrect
Style and clarity	easy to follow	slightly hard to follow, not enough connector words	difficult to follow due to too much unnecessary detail	very difficult to follow, no connector words

Table 4: Tree Induction (16 points)

Criteria	Mastered (2)	Proficient (1)	Absent (0)	
Base case(s)	checks correct values and shows some work	either checks incorrect values or does not show work	neither checks correct values nor shows work; or missing	
Inductive hypothesis	bounds (strong IH) and claim correct, explicitly stated	incorrect bounds or claim (weak IH)	missing or incorrect bounds and claim	
Case structure	cases all covered	small issue with case structure	important case(s) missing	
Details	algebra or other details correct; conclusion is reached	small issue with details, or stops one step before conclusion	large issue with details	
Style and clarity	excellent style, good connector words and formatting	poor formatting or use of words	very difficult to follow	
Criteria	**Mastered (3)**	**Proficient (2)**	**Novice (1)**	**Absent (0)**
Goal and division of problem	larger problem split correctly into smaller problem(s) and goal matches IH	goal off by one, but split correctly	small issue with split	large issue with split (including missing)
Applying IH	IH applied where necessary with correct values plugged in	IH applied but small issue with values, or doesn't call out IH	missing some case where IH must be applied	IH never applied

Note: Any major issues with dividing the problem will typically also result in errors and points off in other sections (applying IH and details).