

MATH 610 HW 1 Rubric

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1. Exercise 1 50 points
 - (a) Problem 1 12 points
 - i. 2 points for checking if $u \in L^2(-1, 1)$
 - ii. 9 points for finding the weak derivative
 - iii. 1 point for showing the weak derivative is in $L^2(-1, 1)$
 - (b) Problem 2 12 points
 - i. 1 point for covering the $\alpha = 0$ case
 - ii. 1 point for finding $\alpha \neq 0$ such that $|x|^\alpha \in L^2(-1, 1)$
 - iii. 10 points for finding $\alpha \neq 0$ such that $|x|^\alpha$ has a weak derivative in $L^2(-1, 1)$
 - (c) Problem 3 13 points
 - i. 10 points for giving a mostly correct proof with minor and fixable errors
 - ii. 7 points for giving a proof that is incomplete, has serious errors, or is missing large steps in the argumentation
 - (d) Problem 4 13 points
 - i. 7 points for giving a proof that is incomplete, has serious errors, or is missing large steps in the argumentation
 - ii. 10 points for giving a mostly correct proof with minor and fixable errors
2. Exercise 2 50 points
 - (a) Problem 1 25 points
 - (b) Problem 2 25 points
 - i. 6 points for showing 1 inequality
 - ii. 12 points for showing 2 inequalities
 - iii. 18 points for showing 3 inequalities
 - iv. 25 points for showing all inequalities