

Implicit in any homework problem is that you must explain why your answer is correct, even if the problem does not ask for a formal proof. Writing problems should have complete explanations of your work, written in complete sentences with correct grammar.

Due: Thursday, 9/29

HOMework ASSIGNMENT

Regular Problems: 5.20, 6.8, 6.10, 6.12, 6.14, 6.20, 6.23, 7.4, 7.5.

Writing Problem 1: 5.26

Writing Problem 2: For each relation on \mathbb{R} , carefully prove the relation is an equivalence relation or give a counterexample to show it is not. For those which are equivalence relations, describe the equivalence class E_x of a number $x \in \mathbb{R}$.

- (a) aRb iff $a - b$ is rational.
- (b) aRb iff $a - b$ is irrational.
- (c) aRb iff $a - b$ is an integer.
- (d) aRb iff $|a - b| \leq 1$.