

Math 10850, Honors Calculus 1

Quiz 3, Thursday September 19

Name:

1. State the trichotomy axiom of positivity for real numbers (P10). I'll get things started for you: "There is a set of numbers, \mathbb{P} , called the *positive numbers*, that satisfies the following:

2. Express

$$|(|x| - 1)|$$

without absolute value signs, treating various cases separately where necessary. Remember that it is ok to have cases overlapping, if they agree at the point of overlap (practically this means that you can think of $|a|$ as having two clauses in its definition: one for $a \geq 0$, one for $a \leq 0$). Write your final solution using the *brace notation*, for example

$$\text{this thing} = \begin{cases} \text{something} & \text{if condition/case 1} \\ \text{something else} & \text{if condition 2} \\ \text{something else again} & \text{if condition 3} \end{cases}$$