HOMEWORK 12

LEANDRO RIBEIRO

Proposition 10.27. *Given any $r \in \mathbb{R}_{>0}$, the number $\sqrt{r}$ is unique in the sense that, if x is a positive real number such that $x^2 = r$, then $x = \sqrt{r}$.*

Proof. □

Proposition 11.12. *If $r \in \mathbb{N}$ is not a perfect square, then $\sqrt{r}$ is irrational.*

Proof. □

Proposition 11.4. *Given a rational number $r \in \mathbb{Q}$, we can always write it as $r = \frac{m}{n}$, where $n > 0$ and m and n do not have any common factors.*

Proof. □

proposition 11.13. *Let m and n be nonzero integers. Then $\frac{m}{n}\sqrt{2}$ is irrational.*

Proof. □

Sources.

Date: April 24, 2017.