

## Math 614 Quiz 1

Let  $R$  be a commutative ring with unity. Let  $I$  be any ideal of  $R$ . Recall that the **radical** of  $I$  is the set  $\sqrt{I} := \{f \in R \mid f^n \in I \text{ for some } n \in \mathbb{N}\}$ .

Prove that  $\mathbb{V}(I) = \mathbb{V}(\sqrt{I})$  for any ideal  $I \subset R$ .