

Directions: This assessment has 2 questions, for a total of 20 points. You must show all of your work to receive full credit for an answer. Remember, you may not use a calculator or any other resources during this assessment. Good luck!!

First Name: _____ Last Name: _____ # _____

1. (10 points) Suppose n is an irrational number. Prove that $1/n$ is an irrational number.

2. (10 points) Prove: For all integers α, β , if $\alpha^2 + \beta^2 = 2k$ for some integer k then $\alpha + \beta$ is even.