

MAT-25. Homework 2: Due April 15.

April 8, 2008

1. Using induction prove that:

$$n < 2^n,$$

for all natural numbers $n \in \mathbb{N}$.

2. Do Problem 1.8(a) from the textbook.
3. Do problem 2.1 from the textbook (but only for $\sqrt{3}, \sqrt{24}$).
4. (a) Prove that sum of rational and irrational number is always irrational.
(b) What about the product rational·irrational ? When is it rational and when it is irrational?