

MTH 309

Additional Problems for Sec 1.7

1. Use proof by contraposition to prove that if n is an integer and n^3 is even then n is even.
2. Use proof by contradiction to prove that the cube root of 2 is irrational.
3. Prove that $\sqrt{2} + \sqrt{3}$ is irrational. Hint: You may use the facts proved in class/homework that $\sqrt{2}$ is irrational and the sum and product of two rational numbers is rational.