
Section 5.2

5.10 (5.7) Prove that there is no largest negative rational number.

5.20 (5.17) Prove that $\sqrt{2}+\sqrt{3}$ is an irrational number. (It might be helpful to prove that $\sqrt{6}$ is irrational first.)

5.28 Prove that there do not exist positive integers m and n such that $m^2 - n^2 = 1$.

5.32 Prove that there exist no positive integers m and n for which $m^2 + m + 1 = n^2$.