1.7 Introduction to Proofs

1.7 pg 91 # 11
Prove or disprove that the product of two irrational numbers is irrational.

1.7 pg 91 # 1
Use a direct proof to show that the sum of two odd integers is even.

1.7 pg 91 # 13
Prove that if $x$ is irrational, then $1/x$ is irrational.

1.7 pg 91 # 17
Show that if $n$ is an integer and $n^3 + 5$ is odd, then $n$ is even using
   a. a proof by contraposition
   b. a proof by contradiction

1.7 pg 91 # 23
Show that at least ten of any 64 days chosen must fall on the same day of the week.

1.7 pg 91 # 27
Prove that if $n$ is a positive integer, then $n$ is odd if and only if $5n + 6$ is odd.

Supplementary Exercises pg 113 # 39
Prove that if $x$ is irrational and $x \geq 0$, then $\sqrt{x}$ is irrational.