Exercises:

1. Minimize the surface area of a cylinder with a volume of 6 meters.

2. Mr. Young and Dr. Bob are working on building a new rocket launcher. The FAA rules limit the maximum height of amateur rockets to 14,500 feet. The maximum possible height capability of a launcher is determined by the total pressure of air passing through the outlet a in psi and the diameter of the outlet s in inches with the equation $\left(\frac{99.5\sqrt[4]{a^3}}{s}\right) + s$. Additionally, a must be 175 times greater than s. Optimize the function to find the best combination of pressure and outlet size.