Assignment #4

1. **[Anderson’s Problem 9.3]** Consider a turbojet mounted on a stationary test stand at sea level. The inlet and exit areas are the same, both equal to 0.45 m2. The velocity, pressure, and temperature of the exhaust gas are 400 m/s, 1.0 atm, and 750 K, respectively. Calculate the static thrust of the engine. (Note: Static thrust of a jet engine is that thrust produced when the engine when the engine has no forward motion.)
2. **[Anderson’s Problem 9.4]** Consider a turbojet-powered airplane flying at standard altitude of 40,000 ft at a velocity of 530 mph. The turbojet engine has inlet and exit areas of 13 ft2 and 10 ft2, respectively. The velocity and pressure of the exhaust has at the exit are 1500 ft/sec and 450 lbf/ft2, respectively. Calculate the thrust of the turbojet.