

AAE 4660 Aeropropulsion Systems

HW # 4

Fall 2009

Due: Monday November 2, 2009

Ideal Turbojet Performance Analysis

Consider an ideal turbojet engine with the following conditions:

$$M_0 = 2$$

$$T_0 = 222.2 \text{ K}$$

$$\pi_c = 20$$

$$\tau_\lambda = 7$$

$$\gamma = 1.4$$

$$h_{PR} = 19,000 \text{ Btu/lbm}$$

Determine

- (1) M_9 , EGT, V_9 , specific thrust, fuel/air ratio, and
- (2) TSFC