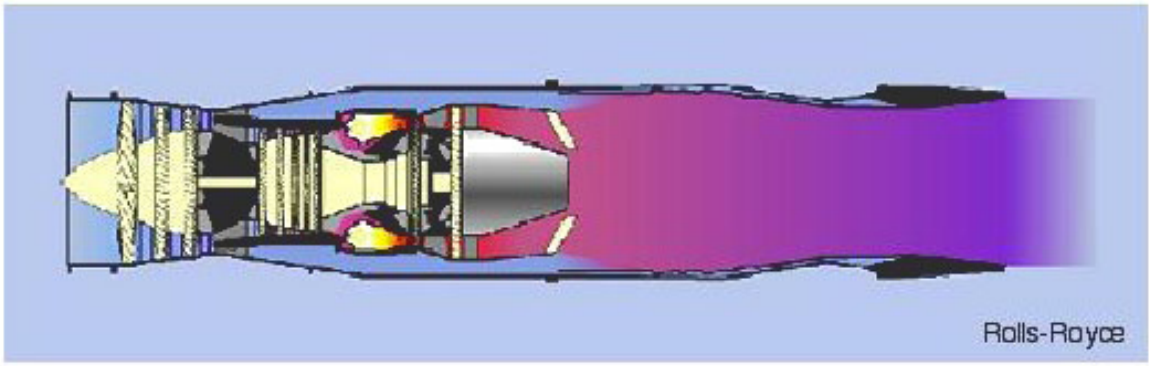
Chapter 8, Question 2: Turbojet Performance

For an ideal turbojet, the thermal efficiency is a function of



1) Only the temperature ratio across the compressor

2) The temperature ratio across the compressor and the flight Mach number

3) Only the turbine inlet temperature

4) I don't know

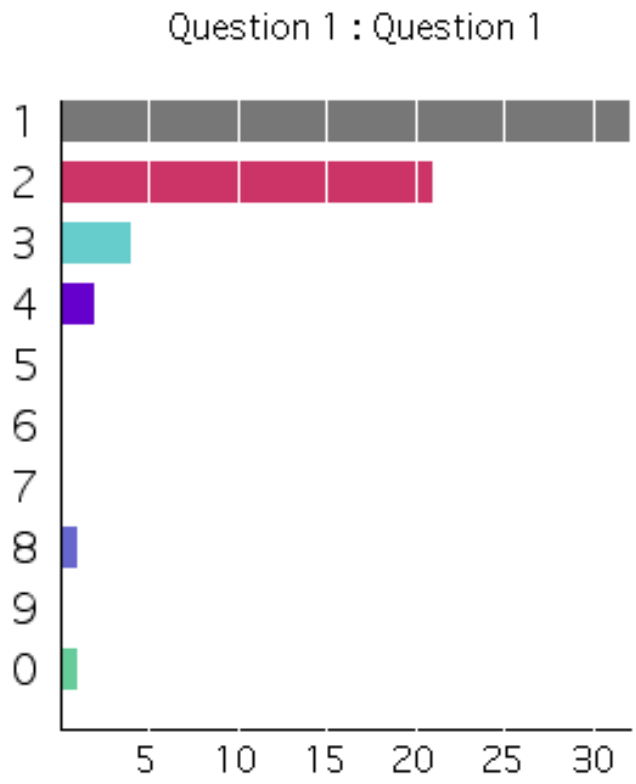
L.O. G & H

Chapter 8, Question 2 Answer:

The correct answer is 2) the compressor ratio across the compressor and the flight Mach number

The thermal efficiency is a function of the temperature rise from atmospheric conditions to the exit of the compressor. This is produced by two effects: the ram temperature rise and the work added to the flow across the compressor. Therefore the thermal efficiency is influenced both by flight Mach number (sets the increase in stagnation temperature due to the ram effect) and compressor temperature rise.

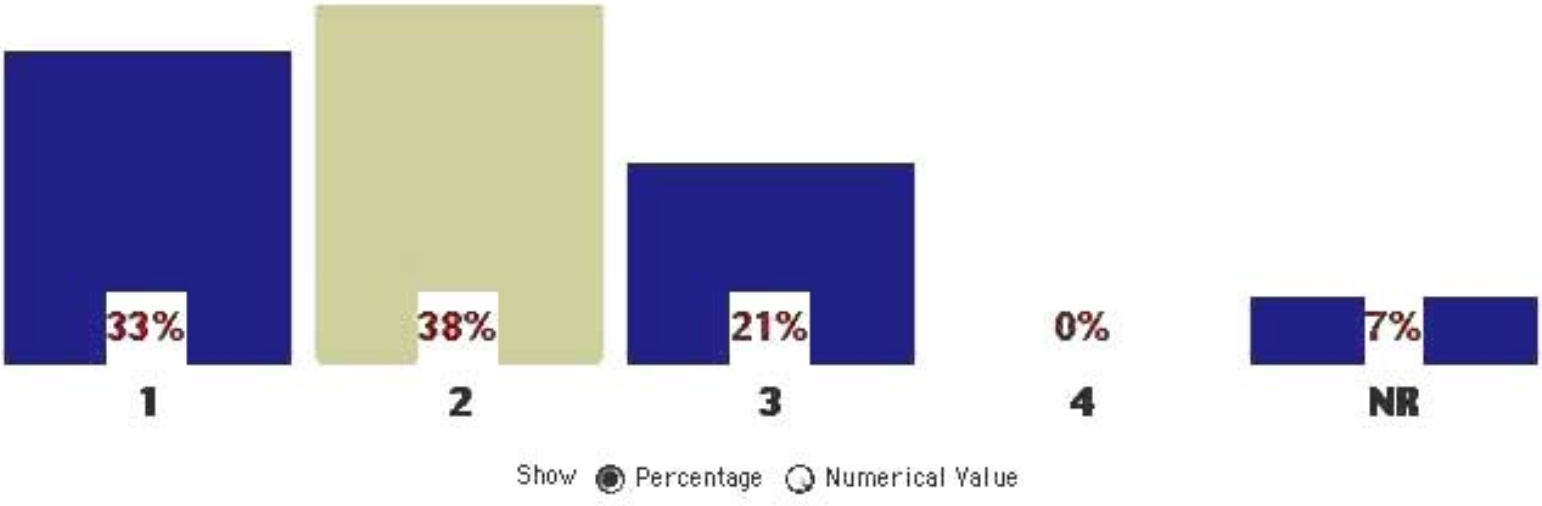
Class performance (2003):



Class performance (2001):

Quiz 2 started at 9:23:12 AM

42 students logged in.



Show ◉ Percentage ○ Numerical Value