Cooling method for gas turbines. During periods of high electricit demand, especially during the hot summer months, the power output from a gas turbine engine can drop dramatically. One way to counter this drop in power is by cooling the inlet air to the gas turbine. An increasingly popular cooling method uses high pressure inlet fogging. The performance of a sample of 67 gas turbines augmented with high pressure inlet fogging was investigated in the Journal of Engineering for Gas Turbines and Power. One measure of performance is heat rate (kilojoules per kilowatt per hour). Heat rates for the 67 gas turbines, saved in the GASTURBINE file, are listed in the table. Suppose that a standard gas turbine has, on average, a heat rate of 10,000 kJ/kWh. Conduct a test to determine if the mean heat rate of gas turbines augmented with high pressure inlet fogging exceeds 10,000 kJ/kWh. Use α= .05. In addition, use the Shapiro-Wilk test to examine the normality hypothesis. (You don’t have to draw the Q-Q plot). Show all work.

