Test in z-Test and t-Test

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A real estate agent claims that the average price of a home sold in Beaver County, Pennsylvania, is $60,000. A random sample of 30 homes sold in the county is selected, and the prices in dollars are shown. Is there enough evidence to reject the agent’s claim at $α=0.05$?

9,500 54,000 99,000 53,500 27,000 21,000

94,000 80,000 29,000 211,000 15,000 28,000

121,500 184,750 15,000 92,000 38,000 60,000

164,450 6,000 13,000 126,900 25,225 95,000

188,400 121,000 308,000 42,000 7,500 32,900

1. Average undergraduate cost for tuition, fees, room, and board for all institution last year was $19,410. A random sample of cost this year for 40 institutions of higher learning indicated that the sample mean was $22,098, and the sample standard deviation was $6,050. At $α=0.01$ level of significance, is there sufficient evidence to conclude that the cost of attendance has increased?
2. The average family size was reported as 3.18. A random sample of families in a particular school district resulted in the following family sizes:

5 4 5 4 4 3 6 4 3 3 5 6 3 3

2 7 4 5 2 2 2 3 5 2

At $α=0.05$, does the average family size differ from the national average?

1. A student suspected the average cost of a Saturday night date was no longer $30. To test her hypothesis, she randomly selected 16 men from the dormitory and asked them how much they spend on a date last Saturday. She found that the average cost was $31.17. The standard deviation of the sample was $5.51. At $α=0.05$, is there enough evidence to support her claim?