Introduction to Statistics
Activity 9.3a **NAME:**

Hypothesis Testing- Quantitative

a) What are the 6 six steps of conducting a hypothesis test?

b) 2. Syracuse wants to add new subdivisions north of the city in advance of Micron moving in. The city planner thinks that the Central New York area has an average of 30 houses per subdivision. She takes a SRS of 45 subdivisions there and finds that her sample has an average of 38 houses per subdivision, with a standard deviation of 6 houses. Is the true average likely to be significantly higher than 30? Conduct the 6-step hypothesis testing below:

1. _____

2. _____

3. _____

4. _____

5. _____

What three parts need to be included in the conclusion (step 6)?

- _____
- _____
- _____

6.

c) Next, she needs to know how many miles of pipes should be laid per subdivision. The city planning board says that on average, in New York, a subdivision requires 260,000 feet of pipes. She reads the blueprints for 32 of the planned Micron subdivisions and finds that on average they call for 267,000 feet of pipe, with a standard deviation of 15,000 feet. Are the Micron developers designing inefficient water and sewage pipe systems?

1.

2.

3.

4.

5.

6.

Hypothesis Testing - Means

d) Finally, the building starts. She wants to know how fast the subdivisions are being built, because if they are being built too slowly, the contractor must pay the city back some of their deposit. The developers promised that they could build a house in 12 days, on average. She logged how long it took 15 of the houses to be built, and it was 16 days on average, with a standard deviation of 9 days. Does she have a case for demanding the deposit back?

1.

2.

3.

4.

5.

6.