

S:25 Lecture/Practice Problems - Chapters 20, 21, 23
Sample % and CI for Pop %, Sample Avr and CI for Pop Avr

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1. In a large city, all high school seniors were given an achievement exam. The citywide average was 62 with a standard deviation of 15.

a) Use a normal curve to **estimate the probability** that the **average** test score of **100** randomly selected high school seniors in that city is over 64.

b) Use a normal curve to **estimate the probability** that the **average** test score of **400** randomly selected high school seniors in that city is over 64. Compare this answer to the answer to (a).

2. 70% of the households in a large town have a home computer. A simple random sample of 400 of the households will be chosen. Use a normal curve to **approximate the probability** that the **percentage** of sample households with a home computer will be greater than 74%.

3. 216 of 400 randomly selected students at a large university said that they plan to work for pay over the summer. Find a **90% confidence interval** for the **percentage** of all students at this university who plan to work for pay over the summer.

4. A simple random sample of 225 male high school athletes is taken in a large city. Each student in the sample runs one lap on a $\frac{1}{4}$ mile track. The average amount of time to complete the run was 76 seconds with a standard deviation of 9.0 seconds. Find a **95% confidence interval** for the **average** time of all such students (male high school athletes) in this city.