# WORKSHEET: Section 9.1 – Confidence Interval for Proportion Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. If 64% of a sample of 550 people leaving a shopping mall claims to have spent over $25, determine a 99% confidence interval estimate for the proportion of shopping mall customers who spend over $25. Interpret your interval.
2. In a random sample of machine parts, 18 out of 225 were found to have been damaged in shipment. Establish a 95% confidence interval estimate for the proportion of machine parts that are damaged in shipment. Interpret your interval.
3. A telephone survey of adults was taken shortly after the U.S. began bombing Iraq. How large a sample is required to get the estimate to within 2% with a 95% confidence level?
4. An assembly line does a quality check of its products. It finds that 16% of the parts are defective. After performing maintenance on its machines, it wants to determine if the number of defective parts has been reduced. What sample size is required to get an estimate within .01 with a 99% confidence level?
5. Suppose a 90% confidence interval is stated as (0.3011, 0.4189).
6. What is the sample proportion from this sample?
7. What is the margin of error?