Stat 171 - Worksheet for Section 7.4

Name: _____

1. A researcher claims that more than 30% of U.S. smartphone owners use their phone while watching television. In a random sample of 150 adults, 59 of them say they use their phone while watching television. At $\alpha = 0.05$, is there enough evidence to support the researcher's claim?

   (a) Verify that $np \geq 5$ and $nq \geq 5$.

   (b) Identify the claim and state H_0 and H_a

   (c) Identify the level of significance.

   (d) Find the critical value z_0 and identify the rejection region.

   (e) Find the standardized test statistic z. Sketch a graph.

   (f) Decide whether to reject the null hypothesis.

   (g) Interpret the decision in the context of the original claim.

2. A researcher claims that 30% of U.S. adults have not purchased a certain brand because they found the advertisements distasteful. You decide to test this claim and ask a random sample of 250 U.S. adults whether they have not purchased a certain brand because the found the advertisements distasteful. Of those surveyed, 90 reply yes. At $\alpha = 0.10$, is there enough evidence to reject the claim?