

Name: \_\_\_\_\_ Math 130 Day 19 Lecture Worksheet

Date: \_\_\_\_\_ Section 11.1: Hypothesis Tests for 2 Population Proportions

Ex 1 (Sec. 11.1 Hw #19, pg. 540): **Pprevnar** The drug Pprevnar is a vaccine meant to prevent certain types of bacterial meningitis. It is typically administered to infants starting around 2 months of age. In randomized, double-blind clinical trials of Pprevnar, infants were randomly divided into two groups. Subjects in group 1 received Pprevnar, while subjects in group 2 received a control vaccine. After the first dose, 107 of 710 subjects in the experimental group (group 1) experienced fever as a side effect. After the first dose, 67 of 611 of the subjects in the control group (group 2) experienced fever as a side effect. Does the evidence suggest that a higher proportion of subjects in group 1 experienced fever as a side effect than subjects in group 2 at the  $\alpha = 0.05$  level of significance?

- a) Use the P-value method
- b) Use the rejection region method

Ex 4 (Sec. 11.4 Book Example 4 pg. 537): A recent General Social Survey asked the following two questions of a random sample of 1492 adult Americans under the hypothetical scenario that the government suspected that a terrorist act was about to happen:

- Do you believe the authorities should have the right to tap people's telephone conversations?
- Do you believe the authorities should have the right to stop and search people on the street at random?

The results of the survey are in the following table:

		Random Stop	
		Agree	Disagree
Tap Phone	Agree	494	335
	Disagree	126	537

Do the proportions who agree with each scenario differ significantly? Use the  $\alpha = 0.05$  level of significance.

- Use the P-value method
- Use the rejection region method