Significance Test Steps:

$\hat{p} = .488$

The 1998 Statistical Abstract of the U.S. reports that 48.8% of a sample of 2719 $= n$ people claimed to have done some volunteer work during 1996.

Does this sample result provide evidence that the proportion of the population who claimed to have done volunteer work in 1996 differs from 50%? Conduct the appropriate test and report your conclusion. $\neq$

Steps for a significance test:

1) Define the parameter and state the hypotheses in symbols and words:

p = prop of all people (Amer.) who would claim to have done vol. work.

$H_0: p = .5$

$H_a: p \neq .5$

2) CLT (shape, center, and spread of the sampling distribution, check conditions, and sketch): $\mu_{\hat{p}} = .5$

$\sigma_{\hat{p}} = \sqrt{\frac{.5(1-.5)}{2719}} = .0096$

* $2719(.5) \geq 10$, $1359.5 \geq 10$

$2719(1-.5) \geq 10$, $1359.5 \geq 10$

*Assume SRS of Amer. people

3) Calculate the test statistic and p-value: z

$z = \frac{.488 - .5}{.0096} = -1.25$ $2 \cdot P(z < -1.25) = .1056 \cdot 2 = .2112$

4) Write a conclusion (state the p-value, whether it is significant at a certain level, make a decision – reject or fail to reject the null hypothesis, and write the conclusion in context):

With a p-value of .2112, this is not sign. at the .10 level. ($\alpha = .10$)

I fail to reject H_0.

No, this sample does not provide evid. that the prop. of the pop. who claimed to have done vol. work in 1996 differs from 50%.