Math 263007S15 Quiz 5 April 28, 2015 Name: _____

In a study, 931 people who were not taking depression medication were screened for depression and filled out a food survey. The participants were divided into two groups, 311 who screened positive for depression and 620 who screened negative for depression. These two subgroups were believed to be representative of the populations of depressed people not on medication and of non-depressed people. For the depressed group, the mean number of servings per month of chocolate was 8.39, with standard deviation 14.83. For the non-depressed group, the mean number of servings per month of chocolate was 5.39, with standard deviation 8.76.

Is there evidence that people who are depressed eat more chocolate? Use the following steps to decide.

(i) State the null hypothesis.

(ii) State the alternate hypothesis

(iii) Find the test statistic (t or z score)

(iv) What is the distribution of the test statistic? (Is it a t or z score? If t, what are the degrees of freedom?

(v) Find the p value

(vi) State your conclusion precisely.