Practice Set 14 Large Sample Hypothesis Testing Part II

I. Darin buys material for his 30-milligram parts from suppliers A and B. A sample of 30 orders placed with supplier A had a mean delivery time of 24 days and a standard deviation of 9 days. A sample of 40 orders placed with supplier B had a mean delivery time of 27 days and a standard deviation of 10 days. Using a .05 level of significance, determine whether these suppliers have different mean delivery times.

Supplier A:	10, 22, 14, 39, 37, 40, 30, 29, 30, 16, 11, 27, 32, 32, 26, 26, 29, 24, 29, 19, 10, 19, 22, 12, 17, 31, 26, 35, 11, 15,
Supplier B:	14, 37, 20, 19, 12, 18, 22, 23, 26, 21, 19, 39, 34, 27, 34, 40, 17, 41, 35, 26, 11, 42, 25, 29, 36, 17, 21, 42, 10, 37, 31, 38, 27, 38, 34, 13, 40, 22, 11, 32

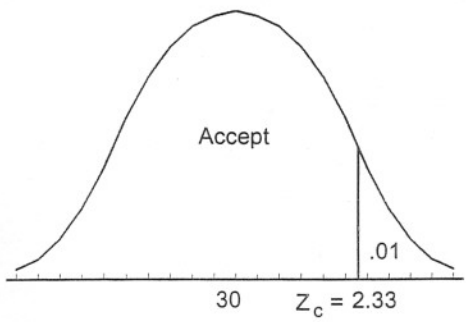
II. Darin has decided to determine the p-value associated with the test of the 30-milligram parts conducted in problem 1 on page 86. This data was first analyzed on page 68.

Problem Review

Given: $\bar{x} = 30.025$ mg, $n = 36$, $s = .065$ mg, and $\alpha = .01$

$H_0 : \mu \leq 30.00$ mg $\qquad H_1 : \mu > 30.00$ mg

$$Z = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}} = \frac{(30.025 - 30.000)}{\frac{.065}{\sqrt{36}}} = 2.315 < 2.33, \text{accept } H_0$$



Note: c is for critical value.

A. Calculate the p-value associated with this study.