

MATH-111 (DUPRÉ) 10 NOVEMBER 2008 QUIZ IN LECTURE ANSWERS

1. PRINT LAST NAME IN LARGE CAPITALS IN UPPER RIGHT HAND CORNER OF THIS SHEET

2. PRINT FIRST NAME IN CAPITALS UNDERNEATH LAST NAME

3. CIRCLE LAB DAY—————T—————TH

4. CIRCLE LECTURE HOUR—————11AM——-1PM

ANSWERS MUST BE CORRECT TO THREE SIGNIFICANT DIGITS

5. Suppose that we ask 1500 ducks in Duckburg if they support Goofy for mayor and 576 say yes. Use this information to give the 99 percent confidence interval for the true proportion of ducks in Duckburg that support Goofy for mayor.

Use the  $1-propZInt$  :  $x = 576$ ,  $n = 1500$ ,  $C = .99$  and the readout is

$$(.35165, .41635)$$

which means  $.35165 \leq p \leq .41635$ , with 99 percent confidence.

6. Suppose that fish weight is normally distributed with mean,  $\mu$ , unknown and standard deviation,  $\sigma$ , also unknown. Suppose we have a sample of size  $n = 35$  with sample mean  $\bar{x} = 43$  and sample standard deviation,  $s = 8$ . Base your answers to the following questions on this sample data.

A. What is the 99 percent confidence interval for the true mean,  $\mu$ ?

Use the  $TInterval$  with  $\bar{x} = 43$ ,  $s_x = 8$ ,  $n = 35$ . The readout gives

$$(39.311, 46.689)$$

which means  $39.311 \leq \mu \leq 46.689$  with 99 percent confidence.

B. What is the MARGIN OF ERROR of the 99 percent confidence interval for the true mean,  $\mu$ ?

As usual, just go back to the appropriate interval in the test menu, in this case the  $TInterval$ , and set  $\bar{x} = 0$ . Here the readout is  $(-3.689, 3.6895)$  which means that the margin of error for the 99 percent confidence interval is 3.6895.