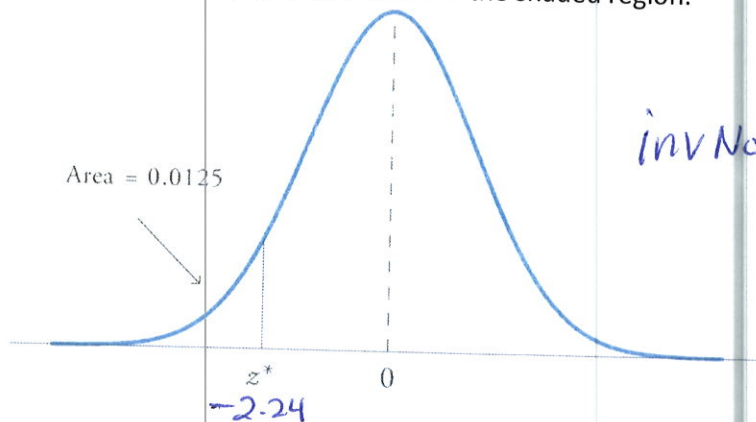MAT 135, Quiz #11, Spring 2016   Name ___KEY___

Instructions: Show all work to receive full credit. You should note any formulas used or calculator functions used, their inputs and outputs. I cannot grade work if I don't know where an answer came from. Be sure complete all parts of each questions, including requests for interpretation and explanations. Be as thorough as possible.

1. Find the z-scores of the boundaries of the shaded region.

Area = 0.0125

z^*
-2.24

$$\text{inv Norm}(.0125) = -2.24$$

2. Define a sampling distribution.

it is the distribution of sample statistics for a particular size sample

— i.e. if you take 1000 samples of 150 people each & plot their mean heights

3. The standard error for the sampling distribution of means is given by $\sigma_\mu = \frac{\sigma}{\sqrt{n}}$. If the population mean is 100 and with a standard deviation of 15. What is the standard error for a sample size of 200?

$$\sigma_\mu = \frac{15}{\sqrt{200}} \approx 1.06$$