MATH 10B
Section 211
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Quiz 11

Student:
SID:
Tue 4/16/19

True/False - No explanation needed. (For each: 1 point if correct, 0 points if not answered, -1 points if incorrect)

1. When using a random variable X and one experiment with it to estimate a parameter θ, we compare all values of $L(x|\theta)$ for $X = x$ fixed and θ varying. True/False
2. The formula $(\ln f(\theta))' = \frac{f'(\theta)}{f(\theta)}$ makes it possible to shift the process from finding critical points for the origin $f(\theta)$ to finding critical points of $\ln(f(\theta))$. True/False

Problems - Needs justification.

1. The population of an Emperor Penguin colony is known to be normally distributed, with unknown mean and standard deviation 2,000. If you measure the population of 25 colonies, what is the probability that the sample mean is within 400 of the true mean? Express your answer in terms of numbers of the form $z(k)$. (10 points)