

## 223 Homework #13 Key

①

1. A Type I error happens when the population really matches the null hypothesis but we conclude it does not.

A Type II error happens when the population is not like the null hypothesis, but we think/conclude that it is.

2.  $2 \times \text{normalcdf}(2.34, E99) = .01928$

3. reject  $H_0$  since  $2.45 \times 10^{-4} = .000245 < .05$

4.  $H_0$  = water not safe to drink

Type I error - we claim it is <sup>safe</sup> when it is not

Type II error - we claim it is not safe when it is

5.  $H_0: \mu = 8.2$

$H_a: \mu > 8.2$

6. fail to reject since  $.18 > .05$

7.  $\alpha$  is the significance level

$1 - \alpha$  is the confidence level