

**Math 483, Fall 2019. Homework 8**  
**Due November 5.**

NAME -----

From the book: Chapter 9, problems 3 (no bootstrap), 7 (no bootstrap)

**Problem A.** Computational exercise: find the relative efficiency of mean and median estimates, for samples of size  $n = 20$  for Normal  $\mathcal{N}(\theta, 1)$  and T-distributions with 3 and 10 degrees of freedom. To generate T-distribution with the location parameter  $\theta$  and given degrees of freedom, use

```
X0 = rnorm(n)
X1 = X0 + theta
T0 = rt(n, df=3)
T1 = T0 + theta
```

Note: since the results will not depend on  $\theta$ , you can use  $\theta = 0$ .