3.7 Exercises

3.7.1. For the baseball data available in Rfit, test the hypothesis of equal heights for pitchers and fielders.

3.7.3. Verify equivalence of the Mann–Whitney (3.6) and Wilcoxon (3.5) tests for the data in Example 3.2.3.

3.7.4. Let T = log S, where S has an F-distribution with degrees of freedom ν1 and ν2. It can be shown, that the distribution of T is left-skewed, right-skewed, or symmetric if ν1 < ν2, ν1 > ν2, or ν1 = ν2, respectively.

(a) Generate two samples of size n = 20 from a log F(1, 0.25) distribution, to one of the two samples add a shift of size Δ = 7. Below is the code to generate the samples.

```
x <- log(rf(20, 1, .25))
y <- log(rf(20, 1, .25)) + 7.0
```

(b) Obtain comparison dotplots of the samples.

(c) Obtain the LS, Wilcoxon, and bentscores1 estimates of Δ along with their standard errors.