

Math 323 Section 9.1 Problems

1. The height of a hobbits is normally distributed, with unknown mean, and known standard deviation of 2.2 inches.

Ten randomly selected hobbits have heights of 51, 47, 48, 48, 43, 50, 42, 49, 45 and 46 inches.

- (a) Give a 95% confidence interval for the average height of hobbits.
- (b) Suppose we only want an upper bound for the average height. Find a $\hat{\Theta}_n^+$ so that

$$P(\theta \leq \hat{\Theta}_n^+) \geq 0.95$$