

Homework Solutions

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Exercise 21

- (a) For a single 14-year-old boy, the probability is $\text{normalcdf}(240, E99, 170, 30) = 0.0098$.
- (b) For a sample of 4 boys, the sample mean has a normal distribution with mean 170 and standard deviation $\frac{30}{\sqrt{4}} = 15$. So the probability is

$$\text{normalcdf}(240, E99, 170, 15) = 1.532 \times 10^{-6}.$$

- (c) This probability is $\text{normalcdf}(190, E99, 170, 15) = 0.0912$.