

Statistics – OR 155, Section 1, Homework # 10

Due: Thursday, April 2, 2009

5.42 (94.9, 100)

5.43

5.46 (60, 7.59, 6, 0.759)

5.45 (for (a) use Excel & 2 plots with same axes)

5.44 b, c (0.952, 0.842)

5.49

5.51

5.53 (caution: answer in test has typo, should be: 134.5)

5.55

6.69

6.71

C20: For $X \sim \text{Bi}(n, 0.25)$, find:

a. $P\{X < (n/4) + (\sqrt{n}/4)\}$, by BINOMDIST

b. $P\{X \leq (n/4) + (\sqrt{n}/4)\}$, by BINOMDIST

c. $P\{X \leq (n/4) + (\sqrt{n}/4)\}$, using the Normal Approxim'n to the Binomial (NORMDIST),

For $n = 16, 64, 256, 1024, 4098$.

(16 64 256 1024 4098

0.630 0.674 0.696 0.707 0.713

0.810 0.768 0.744 0.731 0.725

0.718 0.718 0.718 0.718 0.718)

5.18 (a. population too small, b. $np = 2 < 10$)

C21: Which binomial distributions admit a “good” normal approximation?

a. $\text{Bi}(30, 0.3)$

b. $\text{Bi}(40, 0.4)$

c. $\text{Bi}(20, 0.5)$

d. $\text{Bi}(30, 0.7)$

(no, yes, yes, no)

C22: Estimate the standard error of:

a. The estimate of the population proportion, p , when the sample proportion is 0.9, based on a sample of size 100. (0.03)

b. The estimate of the population mean, μ , when the sample standard deviation is $s=15$, based on a sample of size 25 (3)