

- (2.5 points) 1. Let  $X$  be the number of successes in  $n = 400$  independent trials where the probability of success on each trial is  $p = 0.6$ . Find
- (a)  $P(232 \leq X \leq 250)$  by using the **binomcdf function** on the TI.
  - (b)  $P(232 \leq X \leq 250)$  by using the **normal approximation** to the binomial.
- (2.5 points) 2. The heights of trees are measured. If the **population mean** is 2.24 m with a **population standard deviation** of 0.25 m, find the probability that
- (a) **one** tree measured at random has a height under 2.19 m. (Normal distribution.)
  - (b) **85** trees in a random sample have a **sample mean** under 2.19 m.
- (1.25 points) 3.  $\bar{X}$  is 40 and the margin of error,  $E$ , is 5.75. Find the confidence interval.
- (1.25 points) 4. There are 17 successes in 40 trials. Find the margin of error for a 99% confidence interval for population proportion,  $p$ .
- (2.5 points) 5. Find (a)  $z(0.08)$  using a TI function.
- (b)  $t(0.08, 21)$  using the TI solver or invT.

( 10 points, total. )