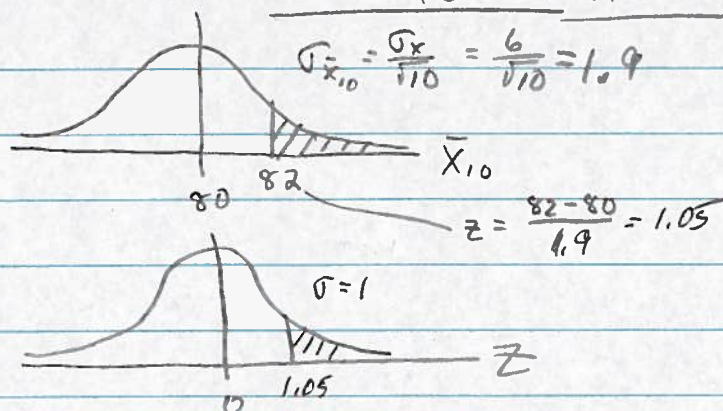


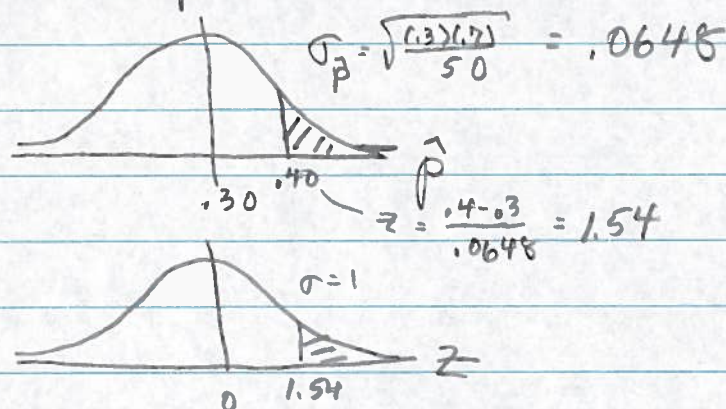
SOLUTIONS: HW #8

1.



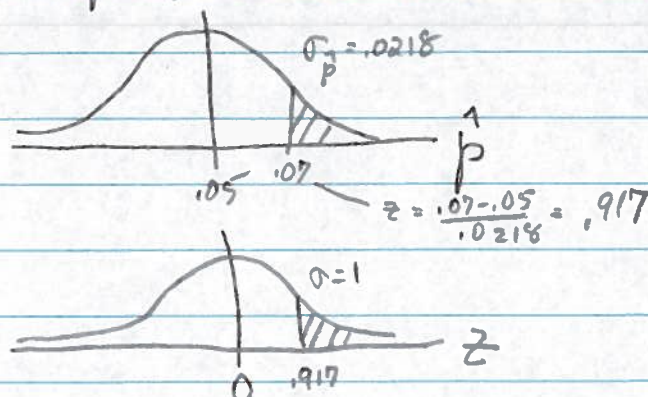
$$P(\bar{X}_{10} > 82) = P(z > 1.05) = (.1469)$$

2. $\hat{p} \sim N(p, \sqrt{\frac{p(1-p)}{n}})$



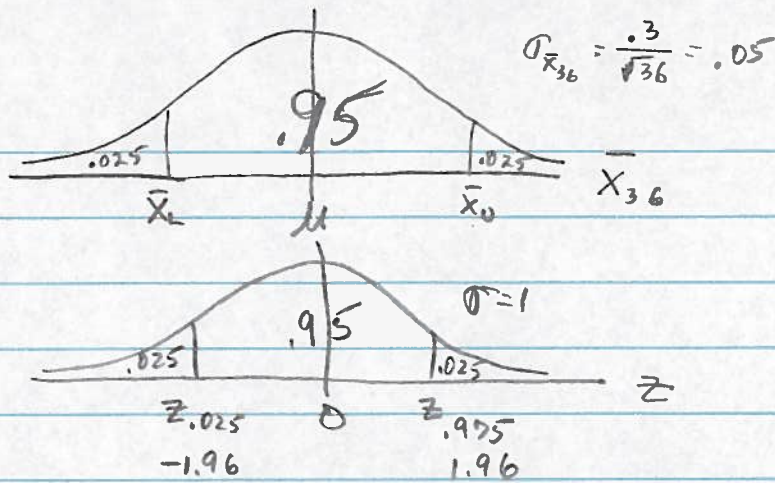
$$P(\hat{p}_{50} > .4) = P(z > 1.54) = (.062)$$

3. $\hat{p} \sim N(p, \sqrt{\frac{p(1-p)}{n}}) = N(.05, \sqrt{\frac{(.05)(.95)}{100}}) = N(.05, .0218)$



$$P(\hat{p}_{100} > .07) = P(z > .917) = (.1788)$$

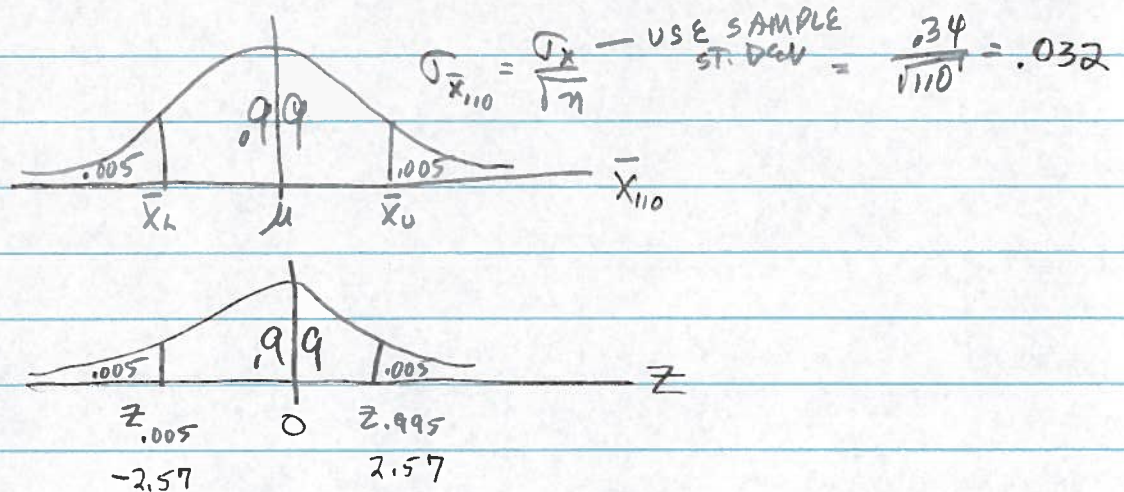
4.



95% C.I. is $\bar{X} \pm 1.96 \sigma_{\bar{X}} = \bar{X} \pm 1.96 \frac{\sigma_X}{\sqrt{n}}$
 $= 2.6 \pm 1.96(.05) = 2.6 \pm .098$

so: 95% C.I. for μ is $(2.502, 2.698)$ OR $(2.5, 2.7)$

5.



99% C.I. is $\bar{X} \pm 2.57 \sigma_{\bar{X}} = .81 \pm 2.57(.032)$
 $= .81 \pm .082$

so 99% C.I. for μ is $(.728, .892)$
 or $(.73, .89)$