STA 110
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Fall 1995 **Name:**_____

Take Home Quiz 6

GREATP. The following is a sample of 10 scores obtained on the Graduate Record Examination Advanced Test in Psychology (GREATP) by graduates with BS in Psychology from a state university

520	470	410	480	440
500	460	510	390	500

(a) Find the mean and standard deviation for the sample.

(b) Find 99 % confidence interval for the population mean score.

(c) If the population standard deviation were known $\sigma = 40$, say, what sample size would you need to obtain a 99 % confidence interval of the length 2.

Probability of heads. A coin is tossed 40 times with the following result:

H	H	T	T	H	T	T	T	H	H
T	T	H	T	H	H	H	T	T	T
T	H	T	T	H	H	H	T	H	H
H	T	H	T	T	T	H	H	T	H

(a) Estimate the probability of obtaining a head.

(b) Give 95 % confidence interval for the probability from (a).

Table

Confidence $(1 - \alpha)$ 100 %	$\Phi(z) = 1 - \alpha/2$	$z_{\alpha/2}$
0.80	0.90	1.28
0.90	0.95	1.64
0.975	0.9875	2.24
0.98	0.99	2.33
0.99	0.995	2.58
0.999	0.9995	3.30