MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Find the indicated critical z value.

	1) Find the value of $-z_0$	$\frac{1}{\sqrt{2}}$ that corresponds to a c	confidence level of 96.68%		1)
	A) -1.84	B) 2.13	C) -2.13	D) 0.0166	
	2) Find the critical value	$z_{\alpha/2}$ that corresponds to	a 98% confidence level.		2)
	A) 1.75	B) 2.575	C) 2.05	D) 2.33	
	3) Find the value of $-z_o$	$_{\alpha/2}$ that corresponds to a c	confidence level of 96.68%		3)
	A) -1.84	B) 0.0166	C) -2.13	D) 2.13	
	4) Find the critical value	$z_{\alpha/2}$ that corresponds to	a 98% confidence level.		4)
	A) 1.75	B) 2.05	C) 2.33	D) 2.575	
	5) Find the critical value	$z_{\alpha/2}$ that corresponds to	a 91% confidence level.		5)
	A) 1.75	B) 1.70	C) 1.34	D) 1.645	
	6) Find $z_{\alpha/2}$ for $\alpha = 0.0^{\circ}$	9.			6)
	A) 1.34	B) 1.75	C) 2.61	D) 1.70	
Use deci	the confidence level and s mal places as the sample n 7) College students' ann A) \$255	ample data to find the m nean unless otherwise m nual earnings: 99% confid B) \$194	hargin of error E. Round go oted. ence; n = 68, \overline{x} = \$3068, σ = C) \$958	your answer to the same r = \$818 D) \$231	number of 7)
	8) Waights of aggs: 05%	$\frac{1}{2}$ confidence: $n = 45 \frac{1}{2} = 1$	50.07 - 0.20.07		8)
	A) 0.01 oz	B) 0.44 oz	C) 0.06 oz	D) 0.05 oz	0)
Solv	ve the problem. Round the	point estimate to the ne	arest thousandth.		
	9) 386 randomly selecte a point estimate of th	d light bulbs were tested	in a laboratory, 97 lasted ulbs that last more than 5	more than 500 hours. Find 00 hours	9)
	A) 0.749	B) 0.251	C) 0.249	D) 0.201	
	10) Find the point estima of 381 people, 76 peo	ite of the proportion of peole	cople who wear hearing ai	ds if, in a random sample	10)
	A) 0.166	B) 0.199	C) 0.197	D) 0.801	
Ass give	ume that a sample is used t in statistics and confidence	to estimate a population e level. Round the margi	proportion p. Find the m n of error to four decima	nargin of error E that corre	esponds to the
	11) 95% confidence; the s	sample size is 5700, of wh	hich 20% are successes		11)
	A) 0.00780	B) 0.0104	C) 0.0120	D) 0.0137	
	12) 95% confidence; n = 2	250, x = 130			12)
	A) 0.0557	B) 0.0743	C) 0.0619	D) 0.0650	

13)) In a random sample of 158 college students, 104 had part-time jobs. Find the margin of error for the 95% confidence interval used to estimate the population proportion.			13)	
	A) 0.0666	B) 0.00279	C) 0.130	D) 0.0740	
Use the gi	ven data to find the minim	um sample size required	to estimate the populati	ion proportion.	
14)	Margin of error: 0.027; confi	dence level: 98%; \hat{p} and \hat{q}	unknown		14)
	A) 1686	B) 1970	C) 863	D) 1862	
15)	5) Margin of error: 0.02; confidence level: 95%; from a prior study, p is estimated by the decimal equivalent of 52%.				15)
	A) 2398	B) 4994	C) 4139	D) 2158	
16)	6) Margin of error: 0.008; confidence level: 99%; \hat{p} and \hat{q} unknown				
	A) 15,900	B) 26,024	C) 25,894	D) 25,901	
17)	Margin of error: 0.04; confid equivalent of 89%.	lence level: 95%; from a pi	rior study, p is estimated	by the decimal	17)
	A) 9	B) 209	C) 236	D) 708	
Use the gi 18)	ven degree of confidence a A survey of 865 voters in or legislature. Construct the 95 who favor approval.	nd sample data to constru- ne state reveals that 408 fa % confidence interval for	uct a confidence interval vor approval of an issue b the true proportion of all	for the population pr before the voters in the state	roportion p . 18)
	A) 0.438 < p < 0.505		B) 0.435 < p < 0.508		
	C) 0.471 < p < 0.472		D) 0.444 < p < 0.500		
Use the gi	ven degree of confidence a	nd sample data to constru	uct a confidence interval	for the population m	ean μ.
Assume th	hat the population has a no	rmal distribution.			10)
19)	19) A savings and loan association needs information concerning the checking account balances of its local customers. A random sample of 14 accounts was checked and yielded a mean balance of \$444.14 and a standard doviation of \$207.20. Find a 00% confidence interval for the true mean				19)
	checking account balance fo	r local customers.			
	A) \$455.65 < μ < \$872.63		B) \$492.52 < μ < \$835.76)	
	C) \$493.71 < µ < \$834.57		D) \$453.59 < µ < \$874.69)	
Use the gi	ven degree of confidence a	nd sample data to constr	uct a confidence interval	for the population p	roportion p.
20)	n = 117, x = 67; 88% confide	nce	->		20)
	A) 0.497 < p < 0.649		B) 0.502 < p < 0.644		
	C) 0.498 < p < 0.648		D) 0.501 < p < 0.645		
21)	21) Of 286 employees selected randomly from one company, 12.59% of them commute by carpooling. Construct a 90% confidence interval for the true percentage of all employees of the company who carpool.				21)
	A) 9.36% < p < 15.8%		B) 7.53% < p < 17.6%		
	C) 8.02% < p < 17.2%		D) 8.74% < p < 16.4%		

22) Of 80 adults selected random	ly from one town, 64 have health insurance. Find a 90% confidence	22)
A) 0.696	B) 0.712	
$C_{1} = 0.005$	D) 0.720 < p < 0.874	
Jse the given degree of confidence and	d sample data to construct a confidence interval for the population r	nean μ.
Assume that the population has a norn	nal distribution.	
23) n = 10, x = 14.4, s = 4.3, 95% co	onfidence	23)
A) 11.91 < μ < 16.89	B) 11.34 < μ < 17.46	
C) 11.32 < μ < 17.48	D) 11.37 < µ < 17.43	
Jse the given degree of confidence and	d sample data to construct a confidence interval for the population	proportion p.
24) Of 147 randomly selected adu	ults, 32 were found to have high blood pressure. Construct a 95%	24)
confidence interval for the tru	le percentage of all adults that have high blood pressure.	
A) 16.2% < p < 27.4%	B) 13.0% < p < 30.6%	
C) 13.8% < p < 29.7%	D) 15.1% < p < 28.4%	
		Э Г)
25) $n = 62$, $x = 19$; 95% confidence		25)
A) 0.210	B) 0.190 < p < 0.422	
C) 0.191 < p < 0.421	D) 0.209 < p < 0.403	
Assume that the population has a norn 26) The football coach randomly	a sample data to construct a confidence interval for the population in nal distribution. selected ten players and timed how long each player took to perform	nean μ. 26)
a certain drill. The times (in m	ninutes) were:	
7.5 10.3 9.3 8.1 11.1		
7.9 6.9 11.4 10.7 12.2		
Determine a 95% confidence i	interval for the mean time for all players.	
A) 8.28 min < μ < 10.80 mir	n B) 10.90 min < μ < 8.18 min	
C) 8.18 min < μ < 10.90 mir	n D) 10.80 min < μ < 8.28 min	
Determine whether the given condition	ns justify using the margin of error E = $z_{lpha/2} \sigma / \sqrt{n}$ when finding a co	onfidence
nterval estimate of the population me	anμ.	07)
27) The sample size is $n = 14, \sigma$ is	not known, and the original population is normally distributed.	27)
A) NO	b) res	
28) The sample size is n = 259 and	d σ = 17.	28)
A) Yes	B) No	
Use the given information to find the r	minimum sample size required to estimate an unknown population	mean μ.
29) How many weeks of data mu	ist be randomly sampled to estimate the mean weekly sales of a new	29)
line of athletic footwear? We	want 95% confidence that the sample mean is within \$200 of the	
population mean, and the pop	pulation standard deviation is known to be \$1300.	
A) 115 E	3) 281 C) 163 D) 230	
30) How many women must be r	andomly selected to estimate the mean weight of women in one age	30)
group We want 90% confider	nce that the sample mean is within 2.7 Ib of the population mean and	
the population standard devia	ation is known to be 22 lb.	
30) How many women must be r group. We want 90% confider the population standard devia	andomly selected to estimate the mean weight of women in one age nce that the sample mean is within 2.7 lb of the population mean, and ation is known to be 22 lb.	30)

A) 181 B) 178 C) 180 D) 256

	31) Margin of error: \$140, confidence level: 95%, σ = \$589				31)
	A) 60	B) 96	C) 68	D) 48	·
Assu	me that a sample is used	l to estimate a population n	nean μ . Use the given conf	idence level and sampl	le data to find
the m	nargin of error. Assume	that the sample is a simple	random sample and the po	opulation has a normal	distribution.
Roun	d your answer to one m	ore decimal place than the	sample standard deviation		
	22) 0E0/ confidence n	-			22)
	32) 95% connuence; fi =	= 91; X = 24, S = 14.7	() 2.06	D) 2.62	32)
	A) 5.20	D) 2.75	C) 3.00	D) 2.02	
	33) 95% confidence [.] n =	$= 51^{\circ} x = 240^{\circ} s = 242$			33)
	A) 88.5	B) 143.0	C) 61.3	D) 68.1	
	.,	_,	-,	_,	
Solve	the problem.				
	34) A newspaper article	e about the results of a poll s	tates: "In theory, the results	of such a poll, in 99	34)
	cases out of 100 sho	uld differ by no more than 2	2 percentage points in either	direction from what	,
	would have been of	otained by interviewing all v	oters in the United States."	Find the sample size	
	suggested by this st	atement.			
	A) 2402	B) 4145	C) 3394	D) 165	
	35) The following confi	dence interval is obtained fo	r a population proportion, p	: (0.862, 0.894). Use	35)
	these confidence in	terval limits to find the point	: estimate, p.		
	A) 0.885	B) 0.862	C) 0.894	D) 0.878	
Use tl	he confidence level and	sample data to find a confi	dence interval for estimati	ng the population μ . R	ound your
answ	er to the same number o	of decimal places as the sam	ple mean.		
	36) 48 packages are ran	domly selected from packag	es received by a parcel serv	ice. The sample has a	36)
	mean weight of 10.7	I pounds and a standard dev	viation of 2.9 pounds. What	is the 95% confidence	
	interval for the true	mean weight, μ , of all packa	ages received by the parcels	service?	
	A) 9.0 lb < µ < 1 l	.2 ID	B) 9.3 ID $< \mu < 10.9$ IC)	
	C) 9.1 10 < µ < 11	. I I I	D) 9.4 ID < µ < 10.8 IC)	
	27) A random complete	f 110 full grown lobotors be	d a maan walaht of 22 auna	as and a standard	27)
	deviation of 3.8 our	ores Construct a 98% confid	a mean weight of 22 ound	tion mean u	37)
	Δ) 21 oz $\leq \mu < 23$		B) 21 oz $< 11 < 24$ oz	lion mean µ.	
	C) 20 07 < μ < 23	07	D) 22 02 $< \mu < 24 02$		
	0, 2002 (µ < 22	02	D) 22 02 (µ (2102		
	20 Test secres $p = 00$	$\frac{1}{2}$ 00.6 π 7.7,00% confide	2 00		20)
	Δ 86.6 < μ < 90.6	K = 00.0, 0 = 7.7, 99% COTITUE	$() 873 < \mu < 899$	D) 86.8 < u < 90.4	30)
	$A) 00.0 < \mu < 70.0$	Β) 07.1 < μ < 30.1	C) 07.5 < μ < 07.7	D 00.0 < μ < 70.4	
	no of the following as a	npropriato: (a) Find the cr	itical value z va (b) find th	o critical value to (c)) stato that
poith	or the normal nor the t	listribution applies	$\alpha_{\alpha_1 \alpha_2}$ (b) find (i		
nenn	20) 99% n – 17 σ is un	known: nonulation annears	to be normally distributed		30)
	A) $t_{a}/2 = 2.898$	B) $7_{a}/2 = 2583$	C) $t_{\alpha/2} = 2.921$	D) $z_{m/2} = 2567$	57)
	$10^{-2.070}$	$U_{1} = U_{1} = 2.000$	(1) (0/2 - 2.72)	D / L U / Z = 2.007	
					40)
	40) 90% ; 11 = 1; $\sigma = 21$; ρ	$P(x) + y_{0} = 2575$	$\frac{111}{111} \text{ any usu induced.}$		40)
	$\alpha/2 = 1.90$	D) $r_{\alpha/2} = 2.575$	$C_{1} Z_{\alpha/2} = 2.55$	D) $z_{\alpha/2} = 2.03$	

41) 90%; n =9; σ = 4.2; population appears to be very skewed.

A) $z_{\alpha/2} = 2.365$

B) Neither the normal nor the t distribution applies.

C) $z_{\alpha/2} = 2.306$

D) $z_{\alpha/2} = 2.896$

Answer Key Testname: PRACTICE QUIZ 3

1) C 2) D 3) C 4) C 5) B 6) D 7) A 8) C 9) B 10) B 11) B 12) C 13) D 14) D 15) A 16) D 17) C 18) A 19) D 20) B 21) A 22) D 23) C 24) D 25) C 26) A 27) A 28) A 29) C 30) C 31) C 32) C 33) D 34) B 35) D 36) B 37) A 38) A 39) C 40) C

41) B