Exam					
Name					
MULTIPLE (question.	сноісе. с	hoose the one alternat	ive that best complet	es the statement or answ	vers the
• •	1) A population has a standard deviation $\sigma = 20.2$. How large a sample must be drawn so				
that	a 98% confid	lence interval for μ will	have a margin of erro	r equal to 4.2?	
A) 11	B) 226	C) 126	D) 5	
Provide an appr	opriate respon	ıse.			
confi how A	idence level, th will the margin) Since more co	e margin of error for this on of error change?	estimate is 2.5%. If we w	gin of error will be smaller.	2)
	<i>'</i>	•	· ·	gin of error will be larger.	
	·	onfidence requires a wide		-	
	•	nough information to det	_	_	
Construct the re	equested confid	dence interval from the s	applied information.		
selec Cons A	cted subjects are	-	n score is 76.2 and their	ortation, and 27 randomly standard deviation is 21.4. ubjects.	3)
) (69.2, 83.2)				
) (64.2, 88.2)				
E) (64.2, 83.2)				

4) For a particular diamond mine, 77% of the diamonds fail to qualify as "gemstone

A) 0.8729

B) 0.1562

C) 0.8438

D) 0.1271

Interpret the confidence interval.				
5) A credit union took a random sample of 40 accounts and obtained the following 90% confidence interval for the mean checking account balance at the institution: \$2197 < μ(balance) < \$3846.				
A) About 9 out of 10 people have a checking account balance between \$2197 and \$3846.				
B) If we took random samples of checking accounts at this credit union, about nine out of ten of them would produce this confidence interval.				
C) We are 90% confident that the mean checking account balance at this credit union is between \$2197 and \$3846, based on this sample.				
D) We are 90% confident that the mean checking account balance in the U.S. is between \$2197 and \$3846.				
E) We are 90% sure that the mean balance for checking accounts in the sample was between \$2197 and \$3846.				
6) How many unpopped kernels are left when you pop a bag of microwave popcorn? Quality control personnel at Yummy Popcorn take a random sample of 50 bags of popcorn. They pop each bag in a microwave and then count the number of unpopped kernels. The following interval is produced: t-interval for μ : with 99% Confidence, $11 < \mu(\text{unpopped}) < 25$	6)			
A) About 99% of the sampled bags had between 11 and 25 unpopped kernels.				
B) 99% of all samples of Yummy popcorn will produce this confidence interval.				
C) We are 99% confident that the average number of unpopped kernels in microwave popcorn bags is between 11 and 25.				
D) The average number of unpopped kernels in a bag of Yummy popcorn is between 11 and 25 kernels.				
E) We are 99% sure that the average number of unpopped kernels in bags of Yummy brand popcorn is between 11 and 25 kernels.				
Use the given degree of confidence and sample data to construct a confidence interval for the population pro	oportion.			
7) When 293 college students are randomly selected and surveyed, it is found that 114 own a car.	7)			
Construct a 99% confidence interval for the percentage of all college students who own a car.				
A) (32.3%, 45.5%)				
B) (34.2%, 43.6%)				
C) (17.4%, 60.4%)				
D) (33.3%, 44.5%)				
E) (31.6%, 46.2%)				
8) Of 230 employees selected randomly from one company, 10.43% of them commute by carpooling. Construct a 90% confidence interval for the percentage of all employees of the company who carpool.	8)			
A) (7.11%, 13.7%)				
B) (6.48%, 14.4%)				
C) (5.23%, 15.6%)				
D) (5.73%, 15.6%)				
E) (5.73%, 15.1%)				

Confidence interval for the A) (73.0%, 85.0%) B) (68.5%, 89.6%) C) (67.4%, 90.7%) D) (70.1%, 87.9%) E) (71.6%, 86.5%)	•	, 64 have health insurance. ults in the town who have		9)
10) Of 132 adults selected ran	•		truct a 99% confidence	10)
interval for the percentage	e of all adults in the t	own who smoke.		
A) (11.0%, 25.6%)				
B) (11.0%, 26.9%)				
C) (10.2%, 27.7%) D) (12.3%, 25.6%)				
E) (13.3%, 24.6%)				
L) (10.070, 21.070)				
11) A certain car model has	s a mean gas milea	ge of 31 miles per gallo	n (mng) with a	11)
	•	y company buys 35 of t		11)
•		e fleet is between 30.9 a		
•			10	
A) 0.4207	B) 0.7690	C) 0.2310	D) 0.6517	
Determine the margin of arrow in act	imatina tha nanulat	on navamatar		
Determine the margin of error in est 12) Based on a sample of size		-	6 11 . 1 .	10)
		interval for the mean scor	e ot all students on an	171
, <u>-</u>		interval for the mean scor	e of all students on an	12)
aptitude test is from 64.3 t A) 0.05		interval for the mean scor	e of all students on an	12)
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aptitude test is from 64.3 t A) 0.05 B) 0.76		interval for the mean scor	e of all students on an	12)
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aptitude test is from 64.3 t A) 0.05 B) 0.76 C) 5.4 D) 2.7 E) Not enough information of 37 light but interval for the population.	o 69.7. ation is given. albs had a mean life ion mean was 579.	etime of 584 hours. A 9. $2 < \mu < 588.8$.	5% confidence	,
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14) In a survey of 314 registered voters, 156 of them wished to see Mayor Waffleskate lose her next election. Construct a 95% confidence interval for the proportion of registered						
	see Mayor Waffleskate d					
A) 0.450, 0.543)	•	B) (0.469, 0.525)				
C) (0.388, 0.605))	D) (0.441, 0.552)				
15) A college admissions officer takes a simple random sample of 80 entering freshmen						
and computes their standard deviation	mean mathematics SAT is $\sigma = 95$.	score to be 469. Assur	me the population			
Construct a 90% co	onfidence interval for the class.	mean mathematics SA	AT score for the			
A) (467, 471)	B) (455, 483)	C) (452, 486)	D) (374, 564)			
16) The mean annual income for people in a certain city (in thousands of dollars) is 40, with a standard deviation of 35. A pollster draws a sample of 48 people to interview. What is the probability that the sample mean income is between 34 and 45 (thousands of dollars)?						
A) 0.8389	B) 0.7219	C) 0.1611	D) 0.2781			
17) At a cell phone assembly plant, 81% of the cell phone keypads pass inspection. A random sample of 97 keypads is analysed. Find the probability that more than 85% of the sample keypads pass inspection.						
A) 0.1587	B) 0.1423	C) 0.8577	D) 0.8413			
18) A sample of size $n = 50$ is drawn from a population whose standard deviation is						
σ = 14.5. Find the 1	margin of error for a 90%	confidence interval for	or μ .			
A) 0.89	B) 0.80	C) 2.05	D) 3.37			

19) The following display from a TI-84 Plus calculator presents a 95% confidence interval.

ZInterval

(41.032, 52.538)

$$\frac{-}{x} = 46.785$$

$$n = 42$$

Fill in the blanks: We are _____ confident that the population mean is between

and _____. A) 95%, 0, 46.785

B) 5%, 41.032, 52.538

C) 95%, 41.032, 52.538

D) 5%, 0, 46.785

Answer Key

Testname: SPRING 2017 6 AND 7 EXERCISES

- 1) C
- 2) D
- 3) A
- 4) B
- 5) C
- 6) E
- 7) E
- 8) A
- 9) E
- 10) C
- 11) C
- 12) D
- 13) C
- 14) D
- 15) C
- 16) B
- 17) A
- 18) D
- 19) C