## **Pre-Calculus Multiple Choice Questions - Chapter S6**

1 Write the following confidence interval in expanded notation **S6.1**  $mean = 45.25 \pm 2.25$ **b** 43.00 - 45.25 **a** 43.00 - 47.50 c 40.25 - 49.25 **d** 45.25 - 47.50 2 Write the following confidence interval in simplified notation **S6.1** 50.25 - 60.75 **a**  $55 \pm 5.25$ **b** 55.5 ± 5.25 **c** 55.5 ± 5 **d**  $55.5 \pm 5.5$ **3** Write the following confidence interval in expanded notation **S6.1**  $mean = 92.25 \pm 0.25$ 

**b** 92.00 - 92.50 **d** 91.75 - 92.75

a 92.25 - 92.50

**c** 92.00 - 92.25

## **Pre-Calculus Multiple Choice Questions - Chapter S6**

**1** A sample survey of 81 movie goers showed that the average length of the main feature film was 90 minutes with a standard deviation of 20 minutes. Compute a 90% confidence interval for the mean of the population

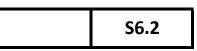


**a** mean = 88.21 - 91.79 minutes

**b** mean = 85.64 - 94.36 minutes

c mean = 85.10 - 94.90 minutes

- **d** mean = 86.34 93.66 minutes
- 2 A sample survey of 81 movie goers showed that the average length of the main feature film was 90 minutes with a standard deviation of 20 minutes. Compute a 95% confidence interval for the mean of the population



**a** mean = 88.21 - 91.79 minutes

**b** mean = 85.64 - 94.36 minutes

**c** mean = 85.10 - 94.90 minutes

- **d** mean = 86.34 93.66 minutes
- **3** The management of the Hammville Corporation recently conducted a survey of 196 of its employees to determine the average number of hours that eeach employee sleeps at night. The company statistician submitted the following information to management:



$$\sum x = 1479.8$$

$$\sum_{x=0}^{\infty} (x-x)^2 = 1755$$

where x is the number of hours slept by each employee. Calculate a 95% confidence interval estimate for the average number of hours that each employee sleeps at night.

a 6.98 - 9.02 hours

**b** 7.5 - 8.5 hours

**c** 7.13 - 7.97 hours

**d** Cannot be determined without more information

## **Pre-Calculus Multiple Choice Questions - Chapter S6**

1 A large company is considering opening a franchise in St. Louis and wants to estimate the mean household income for the area using a simple random sample of households. Based on information from a pilot		
	that the standard deviation of household incomes is \$7200. Of the following,	
	households that should be surveyed to obtain an estimate that is within	
	chold income with 95 percent confidence?	
<b>a</b> 75	<b>b</b> 1300	
c 5200	<b>d</b> 5500	
e 7700		
•	cricket out of paper and rubber bands. According to the instructions for making	\$6.3
the cricket, when it jumps it	will land on its feet half of the time and on its back the other half of the time.	30.3
• • •	ey's cricket landed on its feet 35 times. In the next 10 jumps, it landed on its	
•	s experience, Courtney can conclude	
<b>a</b> The cricket was due to land o	on its feet less than half the time during the final 10 jumps, since it had	
landed too often on its feet o		
	mate the cricket's true probability of landing on its feet is wider after the	
final 10 jumps than it was be	·	
	mating the cricket's true probability of landing on its feet after the final 10	
• •	it was before the final 10 jumps.	
<b>d</b> A confidence interval for estimating the cricket's true probability of landing on its feet is more narrow		
	it was before the final 10 jumps	
	mating the cricket's true probability of landing on its feet based on the	
· ·	ude 0.2, so there must be a defect in the cricket's construction to account	
for the poor showing in the f	inal 10 jumps.	
3 In general, as the width of a	confidence interval increases, the confidence level	S6.3
a Decreases	<b>b</b> Increases	30.3

**b** Increases

**d** Can Not Determine

**a** Decreases

c Stays Constant