

1) Find $t_{\alpha/2}$ when $n = 25$ for the 95% confidence interval for the mean. 1) _____
 A) 2.06 B) 2.63 C) 1.30 D) 1.71

2) A sample of size $n = 10$ is drawn from a normal population. Find the critical value $t_{\alpha/2}$ 2) _____
 needed to construct a 90% confidence interval.
 A) 1.645 B) 1.833 C) 1.383 D) 1.812

3) A sample of size $n = 14$ has a sample mean $\bar{x} = 11.9$ and sample standard 3) _____
 deviation $s = 2.1$. Construct a 99% confidence interval for the population mean μ .

4) A sample of 81 tobacco smokers who recently completed a new 4) _____
 smoking-cessation program were asked to rate the effectiveness of the program
 on a scale of 1 to 10, with 10 corresponding to "completely effective" and 1
 corresponding to "completely ineffective". The average rating was 5.6 and the
 standard deviation was 4.6.
 Construct a 95% confidence interval for the mean score.

5) A food snack manufacturer samples 7 bags of pretzels off the assembly line and 5) _____
 weighs their contents. If the sample mean is 15.2 oz. and the sample standard
 deviation is 0.70 oz., find the 95% confidence interval of the true mean.

6) The prices (in dollars) for a graphing calculator are shown below for 8 online 6) _____
 vendors. Estimate the true mean price for this particular calculator with 95%
 confidence.

130	157	124	124
145	136	126	144

7) Six measurements were made of the magnesium ion concentration (in parts per 7) _____
 million, or ppm) in a city's municipal water supply, with the following results. It
 is reasonable to assume that the population is approximately normal.

<u>175</u>	<u>177</u>	<u>175</u>	<u>180</u>	<u>138</u>	<u>138</u>
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Construct a 90% confidence interval for the mean magnesium ion concentration.

Answer Key

Testname: PRACTICE20

1) A

2) B

3) $10.2 < \mu < 13.6$

4) $4.6 < \mu < 6.6$

5) $14.6 < \mu < 15.8$

6) $125.8 < \mu < 145.8$

7) $147.3 < \mu < 180.4$