

Name _____

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

Use the Poisson Distribution to find the indicated probability.

- 1) A computer salesman averages 0.5 sales per week. Use the Poisson distribution to find the probability that in a randomly selected week the number of computers sold is 0. 1) _____
 A) 0.3033 B) 0.6065 C) 0.7582 D) 0.6672

Identify the type of observational study (cross-sectional, retrospective, prospective).

- 2) Researchers collect data by interviewing athletes who have won Olympic gold medals from 1980 to 1992. 2) _____
 A) Prospective B) Cross-sectional
 C) Retrospective D) None of these

Find the z-score corresponding to the given value and use the z-score to determine whether the value is unusual. Consider a score to be unusual if its z-score is less than -2.00 or greater than 2.00. Round the z-score to the nearest tenth if necessary.

- 3) A body temperature of 96.8° F given that human body temperatures have a mean of 98.20° F and a standard deviation of 0.62°. 3) _____
 A) 2.3; unusual B) -1.4; not usual
 C) -2.3; unusual D) -2.3; not unusual

Find the required prediction interval.

- 4) Ten students in a graduate program were randomly selected. Their grade point averages (GPAs) when they entered the program were between 3.5 and 4.0. The following data consist of the students' GPAs on entering the program and their current GPAs. 4) _____

Entering GPA, x	Current GPA, y
3.5	3.6
3.8	3.7
3.6	3.9
3.6	3.6
3.5	3.9
3.9	3.8
4.0	3.7
3.9	3.9
3.5	3.8
3.7	4.0

The equation of the regression line is $\hat{y} = 3.67 + 0.0313x$. The standard error of the estimate is approximately 0.14521. Determine a 99% prediction interval for the current GPA of a student with an entering GPA of 3.5.

- A) $3.27 < y < 4.29$ B) $3.31 < y < 4.24$ C) $3.24 < y < 4.32$ D) $3.55 < y < 4.01$

Determine whether the sample is likely to be representative of the population.

- 5) An employee at the local ice cream parlor asks three customers if they like chocolate ice cream. 5) _____
 A) Representative B) Not representative

Solve the problem.

- 10) Responses to a survey question are broken down according to gender and the sample results are given below. At the 0.05 significance level, test the claim that response and gender are independent. 10) _____

	Yes	No	Undecided
Male	25	50	15
Female	20	30	10

- 11) Ten different families are tested for the number of gallons of water a day they use before and after viewing a conservation video. At the 0.05 significance level, test the claim that the mean is the same before and after the viewing. 11) _____

Before	33	33	38	33	35	35	40	40	40	31
After	34	28	25	28	35	33	31	28	35	33

- 12) The data below represent the weight losses for people on three different exercise programs. 12) _____

Program A	Program B	Program C
4.6	4.7	4.3
8.0	4.9	6.2
7.3	1.1	5.9
9.6	5.6	7.9
5.1	1.2	7.9

Is there evidence that the mean weight loss is different across exercise programs? If so, what exercise program would you recommend? Use a significance level of 0.05.