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|  | **Week 8:** |  |  |  | [**Help**](http://www.devryu.net/ec/exm2/StudentLoadSection.learn?rldbqn=1&47=4993819&CourseID=3679498&ExamPkID=8707931&SectionPkID=16654019&UnitNumber=8&CoID=255&Header=&DHeader=Week+8%3A++Final+Exam+%2D+Final+Exam&T=&TempAccess=0) |  |
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Top of Form

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| **Page:** | **1** |  | [**2**](javascript:SaveAnswers(16654020,%200,%201);) |  |

|  |  |  |
| --- | --- | --- |
|  |  |  |

Bottom of Form

Top of Form



Time Remaining: 



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| **1.** (TCO 9) What is the feasible range for r, the correlation coefficient? (Points: 6)        0 to 1         -0.5 to 0.5         -1 to 1         -1 to 0    **2.** (TCO 5) The Canadian Services office did a survey of 150 travelers in which they asked if the traveler's first language was French or English. Another question asked was whether the traveler was Canadian born. The results follow.  If a traveler is selected at random (from this group of 150 travelers), find the probability that P(The traveler is a Canadian.) (Points: 6)        7/15         8/15         13/30         4/17    **3.** (TCO 5) The Canadian Services office did a survey of 150 travelers in which they asked if the traveler's first language was French or English. Another question asked was whether the traveler was Canadian born. The results follow.  If a traveler is selected at random (from this group of 150 travelers), find the probability that P(The traveler is not Canadian and speaks French as the first language.) (Points: 6)        20/85         20/70         0.135         20/150    **4.** (TCO 5) The Canadian Services office did a survey of 150 travelers in which they asked if the traveler's first language was French or English. Another question asked was whether the traveler was Canadian born. The results follow.  If a traveler is selected at random (from this group of 150 travelers), find the probability that P (The traveler speaks French as a first language given he is a Canadian.) (Points: 6)        65/150         0.800         65/80         65/85    **5.** (TCO 2) In a study done by the National Health Foundation, it was determined that the mean number of headaches for women is 14 per year with a standard deviation of 2.5. How many standard deviations is 16.50 from the mean? (Points: 6)        1.25         1.00         0.75         0.50    **6.** (TCO 6) Find the following probability involving the Standard Normal Distribution. What is P(z < 0.25)? (Points: 6)        0.4013         0.9938         0.8944         0.5987    **7.** (TCO 8) Suppose you are performing a hypothesis test on a claim about a population proportion. Using an alpha = 0.01 and n = 100, what is the rejection region if the alternate hypothesis is Ha: p > 0.75? (Points: 6)        Reject Ho if z > 1.28         Reject Ho if z > 1.64         Reject Ho if z < -2.33         reject Ho if z > 2.33    **8.** (TCO 8) Suppose you are performing a hypothesis test on a claim about a population proportion. Using an alpha = 0.05 and n = 90, what two critical values determine the rejection region if the null hypothesis is: Ho: p = 0.35? (Points: 5)        1.28, -1.28         1.96, -1.96         2.33, -2.33         none of these    **9.** (TCO 2) If the standard deviation of some data is 36, what is the variance? (Points: 5)        6         72         1296         720    **10.** (TCO 1) Determine the minimum required sample size if you want to be 95% confident that the sample mean is within 3 units of the population mean given sigma = 7.8. Assume the population is normally distributed. (Points: 5)        6         26         13         52    **11.** (TCO 3) The stem and leaf plot for the following data is displayed below: {70, 78, 76, 55, 43, 56, 32, 67, 68, 71, 75, 67, 60, 62, 58, 75, 21} Stem and Leaf Plot: 2 | 1 3 | 2 4 | 3 5 | 5 6 8 6 | 0 2 7 7 8 7 | 0 1 5 5 6 8 What is the shape of the data distribution? (Points: 5)        uniform         skewed left         skewed right         symmetric    **12.** (TCO 4) The random variable X represents the annual salaries in dollars of a group of teachers. Find the expected value E(X). X = {$30,000, $40,000, $50,000} P(30,000) = 0.6; P(40,000) = 0.3; P(50,000) = 0.1 (Points: 5)        $18,000         $35,000         $30,000         $22,000    **13.** (TCO 6) Scores on an exam for entering a private school are normally distributed, with a mean of 72 and a standard deviation of 6. To be eligible to enter, a person must score in the top 5%. What is the lowest score you can earn and still be eligible to enter? (Points: 5)        82         72         80         78    **14.** (TCO 5) A shipment of 50 television sets contains 3 defective units. How many ways can a vending company buy three of these units and receive no defective units? (Points: 5)        50         10, 210         16,215         12, 324    **15.** (TCO 6) The time required to process a ton of sugar cane in a plant in Central America in a recent year was normally distributed with a mean 5 days and a standard deviation of 0.5 days (i.e., 12 hours). What is the probability that it will take more than 6 days to process a ton of sugar cane? (Points: 5)        0.9772         0.0228         0.8413         0.1587    **16.** (TCO 10) The earnings per share (in dollars) for McDonald's Corporation are given by the equation y-hat = 0.668 + 0.046a - 0.015b where 'a' represents total revenue (in billions of dollars) and 'b' represents total net worth (in billions of dollars). Predict the earnings per share when total revenue is $10 billion and net worth is $5 billion. (Points: 5)        1.053         0.778         0.061         0.984    **17.** (TCO 9) The estimated value for the correlation coefficient for this graph might be (Points: 3)        -0.50         0.50         1.00         -0.85 |

Bottom of Form

Top of Form

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Page:** | **1** |  | [**2**](javascript:SaveAnswers(16654020,%200,%201);) |  |

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Bottom of Form