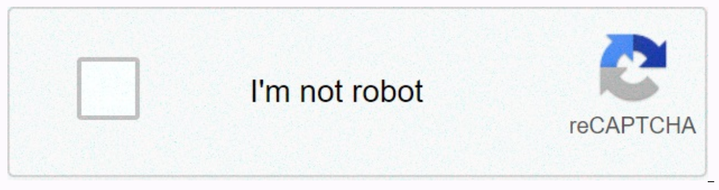

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Statistics chapter 6 confidence intervals worksheet answers

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Next Answer Chapter 6 – Confidence Interval – Section 6.1 Confidence Interval for Average – Exercise – Page 305:2 Previous Answer Chapters 3-5 – Cumulative Review – Page 295:18 Margin of error= (30.1 – 26.2)/2 =1.95 You can help us by revising, improving, and updating these answers. Update this answer After you claim the answer, you'll have 24 hours to submit a draft. The editor will review the submission and publish your submission or provide feedback. Next Answer Chapter 6 – Confidence Interval – Confidence Interval Part 6.1 for Average – Exercise – Page 306: 34 Previous Answers Chapter 6 – Confidence Interval – Part 6.1 Confidence Interval for Average – Exercise – Page 306:32 1. ounces of water in a 9 bottle. 41. Sunshine CD player life is measured in several years. 45. Yes, because it is the same in continuous distribution: P(x = 1) = 0 47. 57. Check for student solutions. 3, 0.197959. Check for student solutions. 0.70, 4.78 years63. Use the z-score formula. z = –0.5141. A height of 77 inches is 0.5141 standard deviation below average. NBA players who are 77 inches shorter than average. Use the z-score formula. z = 1.5424. The height of 85 inches is 1.5424 standard deviation above average. NBA players who are 85 inches taller than average. Height = 79 + 3.5(3.89) = 92.615 inches, which is higher than 7 feet, 8 inches. There are very few NBA players this high so the answer is no, no way. 65. iv Kyle's blood pressure is equal to 125+ (1.75)(14) = 149.5. 67. Let X = SAT and Y math scores = ACT math scores. X = 720 720 – 520 15 720 – 520 15 = 1.74 The test score of 720 is 1.74 standard deviations above the average of 520. z = 1.5 The math SAT score is 520 + 1.5(115) ≈ 692.5. The test score of 692.5 is 1.5 standard deviations above the average of 520. X – μ σ X – μ σ = 700 – 514 117 700 – 514 117 ≈ 1.59, z for SAT. Y – μ σ Y – μ σ = 30 – 21 5.3 30 – 21 5.3 ≈ 1.70, z score for ACT. With for the tests they took, the person who took the ACT did better (had a higher z score). 73. X ~ N(66, 2.5) 0.5404 No, the probability that asian males are more than 72 inches high is 0.0082 75. X~N(36,10) The probability of a person consuming more than 40% of their calories as fat is 0.3446. About 25% of people consume less than 29.26% of their calories as fat. 77. X = number of hours that a four-year-old child in a rural area is not supervised during the day. X ~ N(3, 1.5) The probability that a child spends less than an hour a day unattended is 0.0918. The probability that a child spends more than ten hours a day unattended is less than 0.0001. 2.21 at 79. X = distribution of the number of days of a particular type of criminal trial will take X ~ N(21, 7) The probability that a randomly selected trial will last more than 24 days is 0.3336. 22.77 81. average = 5.51, s = 2.15 Check student solutions. Check for student solutions. Check for student solutions. X ~ N(5.51, 2.15) 0.6029 Cumulative frequency for less than 6.1 minutes is 0.64. The answers to part f and part g are not exactly the same, since the normal distribution is only an estimate for the original. The answer to part f and part g is close, since normal distribution is an excellent estimate when the sample size is greater than 30. The forecast will be less accurate, since the smaller sample size means that the data does not fit the normal curve as well. 83. Average = 60,136 s = 10,468 Answers will vary. Answers will vary. Answers will vary. X ~ N(60136, 10468) 0.7440 The relative cumulative frequency is 43/60 = 0.717. The answers to part f and part g are not the same, since normal distributions are only estimates. 85.n = 100; p = 0.1; q = 0.9 μ = np = (100)(0.10) = 10 σ = npq npq = (100)(0.1)(0.9) (100)(0.1) 1)(0.9) = 3 z = ±1: x1 = μ + zσ = 10 + 1(3) = 13 and x2 = μ – zσ = 10 – 1(3) = 7. 68% of damaged cars will fall between seven and 13. z = ±2: x1 = μ + zσ = 10 + 2(3) = 16 and x2 = μ – zσ = 10 – 2(3) = 4. 95% of damaged cars will fall between four and 16 z = ±3: x1 = μ + zσ = 10 + 3(3) = 19 and x2 = μ – zσ = 10 – 3(3) = 1. 99.7% of damaged cars will fall between one and 19.87. n = 190; p = 1 5 1 5 = 0.2; q = 0.8 μ = np = (190)(0.2) = 38 σ = npq npq = (190)(0.2)(0.8) (190)(0.2)(0.8) = 5.5136 For this issue: P(34 < x < 54) = normalcdf(34,54,48,5,5136) = 0.7641 For this issue: P(54 < x < 64) = normalcdf(54,64,48,5,5136) = 0.0018 For this issue: P(x > 64) = normalcdf(64.1099,48,5.5136) = 0.0000012 (approx. 0) 0)