Relative frequency

Experience, Human Nature

1. Assume the resting heart rates for a sample of individuals are normally distributed with a mean of 70 and a standard deviation of 15. Use the 68-95-99 rule to find the following quantities: a. Percentage of rates less than 70 = 50% b. Percentage of rates less than 55 = 16% c. Relative frequency of rates less than 40 = 2. 5% d. Percentage of rates less than 85 = 84% e. Relative frequency of rates less than 100 = 97. 5% f. Percentage of rates greater than 85 = 16% g.

Percentage of rates greater than 55 = 84% h. Relative frequency of rates greater than 40 = 97. 5% i. Percentage of rates between 55 and 85 = 68% j. Percentage of rates between 70 and 100 = 47. 5% 2. Here are the results of four of your test: | | Your score | Mean | Standard Deviation | | Math (out of 100) | 70 | 80 | 3. | | QM (out of 20) | 20 | 18 | 3 | | RM (out of 100) | 66 | 75 | 5 | | History (out of 30) | 28 | 20 | 3. 5 | a. Present all four results on a standardized normal curve. Be sure to present the calculations for each test. Math: (70 - 80) / 3. 3 = -3. 03 *QM: (20 - 18) / 3 = 0. 67 *RM: (66 - 75) / 5 = -1. 8 *History: (28 - 20) /3. 5 = 2. 29 [pic] Math RM QM History b. What is the percentage of people who have a better mark than you in math? My math's mark is -3. 03 (49. 88 is the area between Mean and z. (50% + 49. 88) 99. 88% of people get a better mark than me in math. c. What is the percentage of people who have a lower mark than you in RM? I got -1. 8 (35. 99 (50 - 35. 99) 14. 1% of people have a lower mark than me in RM d. Which test is the best? Explain The best test is the History one, since it has the highest z-score, 2. 29. There is a high superiority between my mark and the mark's average of the class. I'm 98. 9% over the class. 98. 9% of people got a lower mark than me in History. 3. Pediatric data reveal that the average child is

toilet trained at 26 months, but that there is a 2-month standard deviation from this norm. a. What percentage of children are toilet-trained by 23 months? 50 – 35. 31) 14. 69% of children are toilet-trained by 23 months. b. A mother is concerned that her son was trained at 30 months. What is the probability of having a child being trained at 30 months? (50 – 47. 72) 2. 28% is the probability of having a child being trained at 30 months. c. A mother is pleased that her daughter is trained at 18 months. How common is it that a child would be toilet trained at this age? (50 – 49. 997) There is . 003 of probabilities that a child would be toiled trained at 18 months. 4.

Assume the scores among Asian Americans on an alienation scale are normally distributed with a mean of 22 and a standard deviation of 2. 5 (higher scores reflect greater feelings of alienation). Based on this distribution, determine a. The probability of an Asian American having an alienation score between 22 and 25 The probability of an Asian American having an alienation score between 22 and 25 is 38. 49%. b. The probability of an Asian American having an alienation score of 20 or less. (50 – 28. 81) The probability of an Asian American Having an alienation score of 20 or less is 21. 19%.