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| **Elementary Statistics** | **Name:** _____ |
| **Study Guide 5** | **Class:** _____ |
| **Due Date:** _____ | **Score:** _____ |

**Your solutions must be consistent with class notes & resources.**

**Be Neat, Organized, and No Work $\Leftrightarrow$ No Points**

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**1. Consider the sample below:**

**2 0 5 5 4 10 1 5**

**(a) (1 point) Find the sample size.**

**(a)** _____

**(b) (1 point) Find the sample mode.**

**(b)** _____

**(c) (1 point) Find** $\sum x$.

**(c)** _____

**(d) (1 point) Find** $\sum x^2$.

**(d)** _____

**(e) (2 points) Find** $\bar{x}$ **by using the formula only. Round your answer to one decimal place.**

**(e)** _____

**(f) (2 points) Find** $s^2$ **by using the formula only. Simplify your answer to a reduced fraction.**

**(f)** _____

**(g) (2 points) Find** $s$ **by using the formula only. Round your answer to one decimal place.**

**(g)** _____

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**2. Consider the sample below:**

**20 10 15 8 14 15 18 5 12 20 10 16**

**(a) (2 points) Find $\sum x$.**

**(a)** _____

**(b) (2 points) Find $\sum x^2$.**

**(b)** _____

**(c) (2 points) Find $\bar{x}$ by using the formula only. Round your answer to one decimal place.**

**(c)** _____

**(d) (2 points) Find $s^2$ by using the formula only. Simplify your answer to a reduced fraction.**

**(d)** _____

**(e) (2 points) Find $s$ by using the formula only. Round your answer to one decimal place.**

**(e)** _____

**(f) (2 points) Estimate $s$ by using the range rule–of–thumb.**

**(f)** _____

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**3. (2 points) What do we learn about sample data elements when the sample standard deviation is 0?**

**3.** _____

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**4. Given:** $n = 20$, $\sum x = 1570$, $\sum x^2 = 125696$, **minimum** $= 60$, **and maximum** $= 100$

**(a) (1 point) Find the sample range.**

**(a)** _____

**(b) (1 point) Find the sample midrange.**

**(b)** _____

**(c) (2 points) Find $\bar{x}$. Round your answer to a whole number.**

**(c)** _____

**(d) (2 points) Find $s^2$ in reduced fraction**

**(d)** _____

**(e) (2 points) Find $s$. Round your answer to a whole number.**

**(e)** _____

**(f) (2 points) Estimate $s$ by using the range rule–of–thumb.**

**(f)** _____

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**5. Scores of a math exam has a bell–shaped distribution with the mean of 84 and standard deviation of 7. Using the empirical rule,**

**(a) (2 points) Find its $68\%$ range.**

**(a)** _____

**(b) (2 points) Find its usual range.**

**(b)** _____

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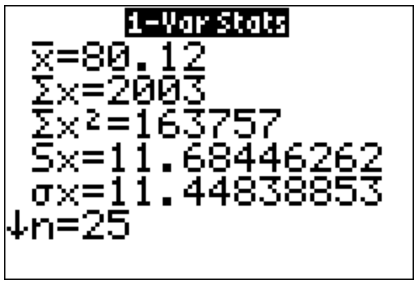
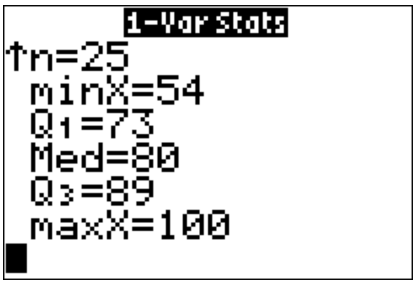
**6. The following calculator displays present the basic computational statistics on a randomly selected sample.**




**(a) (2 points) Find the range and the midrange.**

**(a)** _____

**(b) (2 points) Round the sample mean and standard deviation to a whole number, then find the usual range of the sample.**

**(b)** _____

**(c) (2 points) Estimate the value of the sample standard deviation.**

**(c)** _____

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**7. Given:** $n = 10$, $\sum x = 215$, **and** $\sum x^2 = 4750$

**(a) (2 points) Find** $\bar{x}$ **. Round your answer to one decimal place.**

**(a)** _____

**(b) (3 points) Find** $s^2$ **. Simply your answer to a reduced fraction.**

**(b)** _____

**(c) (1 point) Find** $s$ **. Round your answer to one decimal place.**

**(c)** _____

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***Invest in your education with focus and dedication to learning.***