SOLUTIONS: Quiz #1 ne Form #2

STATS SPRING 2019

I. ① C ④ D

② E ⑤ C

③ C

II. EMPIRICAL RULE Applies to "MOUND SHAPED" Data

in the interval	will be approximately
$\mu \pm \sigma$	68% of the data
$\mu \pm 2\sigma$	95% of the data
$\mu \pm 3\sigma$	99% of the data

III.

⑥ $\bar{x} = \frac{\Sigma x}{n}$

$= \frac{1+9+6+(-4)+3}{5}$

$= \frac{15}{5}$

$= \boxed{3}$

⑦ ORDER the data

$-4, 1, 1, \underset{\text{M}}{3}, 6, 9$

$\boxed{M = 3}$

⑧ $R = H - L$

$= 9 - (-4)$

$= \boxed{13}$

⑨ $\Sigma x^2 = (1)^2 + (5)^2 + (6)^2 + (-4)^2 + (3)^2$

$= 1 + 81 + 36 + 16 + 9$

$= 143$

$(\Sigma x)^2 = (15)^2$

$= 225$

$s^2 = \frac{\Sigma x^2 - \frac{(\Sigma x)^2}{n}}{n-1}$

$= \frac{143 - \frac{225}{5}}{4}$

$= \frac{143 - 45}{4}$

$= \frac{98}{4} = \boxed{24.5}$

⑩ $s = \sqrt{24.5}$

$= \boxed{4.95}$

II ⑥ $\bar{x} = \frac{\Sigma x}{n}$

$= \frac{(-4)+(-3)+9+1+2+5}{6}$

$= \frac{10}{6}$

$= \boxed{1.67}$

⑦ ORDER THE DATA

$-4, -3, 1, 2, 5, 9$

$\hookrightarrow M = \frac{1+2}{2}$

$= \boxed{1.5}$

⑧ $R = H_1 - L_0$

$= 9 - (-4)$

$= \boxed{13}$

⑨ $\Sigma x^2 = (-4)^2 + (-3)^2 + (9)^2 + (1)^2 + (2)^2 + (5)^2$

$= 16 + 9 + 81 + 1 + 4 + 25$

$= 136$

$(\Sigma x)^2 = (10)^2$

$= 100$

$s = s^2 = \frac{\Sigma x^2 - \frac{(\Sigma x)^2}{n}}{n-1}$

$= \frac{136 - \frac{100}{6}}{5}$

$= \frac{136 - 16.67}{5}$

$= \frac{119.33}{5}$

$= \boxed{23.87}$

⑩ $s = \sqrt{23.87}$

$= \boxed{4.89}$