

- (I) 1. E  
2. D  
3. C

4. B

5. A

(II) CHERBYCHEV'S THM:

in the interval

$$\mu \pm 2\sigma$$

$$\mu \pm 3\sigma$$

Applies to ANY DATA SET.

will be  
at least  
75% of the data  
89% of the data

(III)

(b)  $\bar{x} = \frac{\sum x}{n}$   
 $= \frac{4 + (-5) + 10 + 0 + 1 + 6}{6}$   
 $= \frac{16}{6}$   
 $= \boxed{2.67}$

(7) ORDER the data

-5, 0, 1, 4, 6, 10  
 $\rightarrow m = \frac{1+4}{2}$   
 $= \boxed{2.5}$

(8) Range  
 $R = H_1 - L_0$   
 $= 10 - (-5)$   
 $= \boxed{15}$

(9)  $\sum x^2 = (4)^2 + (-5)^2 + (10)^2 + (0)^2 + (1)^2 + (6)^2$

$$= 16 + 25 + 100 + 0 + 1 + 36$$

$$= 178$$

$$(\sum x)^2 = (16)^2$$

$$= 256$$

(10)  $s = \sqrt{27.067}$   
 $= \boxed{5.202}$

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

$$= \frac{178 - \frac{256}{6}}{5}$$

$$= \frac{178 - 42.67}{5}$$

$$= \frac{135.33}{5}$$

$$= \boxed{27.067}$$

⑥

$$\bar{x} = \frac{\sum x}{n}$$

$$= \frac{(5) + (7) + (-5) + (4) + (2)}{5}$$

$$= \frac{13}{5}$$

$$= \boxed{2.6}$$

⑦

order the data

$$-5, 2, \textcircled{4}, 5, 7$$

$$\boxed{pm = 4}$$

⑧

$$R = H_1 - L_0$$

$$= 7 - (-5)$$

$$= \boxed{12}$$

$$\textcircled{9} \quad \sum x^2 = (5)^2 + (7)^2 + (-5)^2 + (4)^2 + (2)^2$$

$$= 25 + 49 + 25 + 16 + 4$$

$$= 119$$

$$(\sum x)^2 = (13)^2$$

$$= 169$$

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

$$= \frac{119 - \frac{169}{5}}{4}$$

$$= \frac{119 - 33.8}{4}$$

$$= \frac{85.2}{4}$$

$$= \boxed{21.3}$$

⑩

$$s = \sqrt{21.3}$$

$$= \boxed{4.615}$$

pg 240