

Chapter 11 Practice Test

1. Find the mean, median, and the mode of the given data set (3 pts)

Number of Students			
8	14	4	63
12	23	10	13
14	29	5	14

4, 5, 8, 9, 12, 13, 14, 14, 14, 23, 29, 63

$$\frac{13 + 14}{2} = \frac{27}{2}$$

= 13.5
Median

Mode

14

Mean

$$\frac{209}{12} = 17.42$$

2. Find the first and third quartiles and the interquartile range of the data (3 pts)

Number of CDs					
9	7	15	10	4	16
8	7	17	5	18	22
12	19	14	6	13	20

4, 5, 6, 7, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 22

Q₁ Q₃

$$\frac{12 + 13}{2}$$

Median

$$IQR = Q_3 - Q_1 = 17 - 7 = 10$$

3. Find the median and the mode of the following data set (2 pts)

Test Scores			
78	81	98	51
67	80	76	72
83	94	91	90
87	60	96	85

51, 50, 57, 72, 76, 78, 80, 81 | 83, 85, 87, 90, 91, 94, 96, 98

$$\frac{81+83}{2} = 82$$

42
Median

No repeating terms

→ No mode

"closer than one mean abs. deviation"

~~95.25~~ ~~83.25~~
between 83.25 - 95.25

4. Serge had the following scores on his math tests last quarter: 97, 91, 87, 88, 87, 93, 100, and 71. Find the mean absolute deviation for the set of data. How many data values are closer than one mean absolute deviation away from the mean? (4 pts)

$$\frac{97+91+87+88+87+93+100+71}{8}$$

Mean $\frac{714}{8} = 89.25$

↑
*Extra credit!
Σ data values

$|97 - 89.25| = 7.75$

$|91 - 89.25| = 1.75$

$|87 - 89.25| = 2.25$

$|88 - 89.25| = 1.25$

$|87 - 89.25| = 2.25$

$|93 - 89.25| = 3.75$

$|100 - 89.25| = 10.75$

$|71 - 89.25| = 18.25$

$$\frac{7.75 + 1.75 + 2.25 + 1.25 + 2.25 + 3.75 + 10.75 + 18.75}{8}$$

$$= \frac{48}{8} = 6$$

$89.25 + 6 = 95.25$

$89.25 - 6 = 83.25$

5. Consider the following data set (4 pts)

Falls	Height (ft)
Bridal Veil	780
Horsetail	197
Latourell	218
Metlako	340
Multnomah	186
Wahkeena	179

a. Find the mean of the data set

$$\frac{780 + 197 + 218 + 340 + 186 + 179}{6} = \frac{1160}{6} = 193.\bar{3}$$

b. What is the outlier in the data? Explain why you think it's an outlier?

780, it is an extreme value in comparison to the rest of the data

c. Remove the outlier from the data set and find the new mean.

$$\frac{197 + 218 + 340 + 186 + 179}{5} = \frac{1120}{5} = 224$$

d. How do the old mean and the new mean compare?

It changed by about 30 feet
(224 - 193. $\bar{3}$)