

Quiz 2/27

1. A random sample of 5 test scores from a statistics were 58, 62, 77, 80, 93. Compute the standard deviation.

2. Earthquake Strengths Twelve major earthquakes had Richter magnitudes shown here.
7.0, 6.2, 7.7, 8.0, 6.4, 6.2, 7.2, 5.4, 6.4, 6.5, 7.2, 5.4
Find the mean, median and midrange.


3. FM Radio Stations A random sample of 30 states shows the number of low-power FM radio stations for each state.

Class limits	Frequency
1-9	5
10-18	7
19-27	10
28-36	3
37-45	3
46-54	2

Source: Federal Communications Commission.

Find the mean and standard deviation.


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

$$s = \sqrt{\frac{n(\sum f \cdot X_m^2) - (\sum f \cdot X_m)^2}{n(n-1)}}$$


HW

2.1 # 1-17 odd
 2.2 # 1-17 odd
 2.3 # 1-25 odd, 24
 3.1 # 1-33 odd
 3.2 # 1-5 all, 7-41 odd
 3.3 # 1-9 all, 11-31 odd
 3.4 # 1-17 odd

Exam 1 Covers chp 2+3
 Frequency Distributions
 Histograms
 Pareto Charts
 Ogive
 Measures of Central Tendency
 Measures of Variation
 Measures of Position
 Five-Number Summary + Boxplots



1. A random sample of 5 test scores from a statistics were 58, 62, 77, 80, 93. Compute the standard deviation.

$$s = \sqrt{\frac{5(58^2 + 62^2 + 77^2 + 80^2 + 93^2) - (58 + 62 + 77 + 80 + 93)^2}{5(5-1)}} = 14.2$$

2. **Earthquake Strengths** Twelve major earthquakes had Richter magnitudes shown here.

~~7.0, 6.8, 7.7, 8.0, 6.4, 6.2~~
~~7.2, 5.4, 6.4, 6.5, 7.2, 5.4~~

Find the mean, median and midrange.

5.4 5.4 6.2 6.2 6.4 6.4 6.5 7.0 7.2 7.2 7.7 8.0

mean = 6.6
 median = 6.45
 midrange = 6.7



3. **FM Radio Stations** A random sample of 30 states shows the number of low-power FM radio stations for each state.

Class limits	Frequency	
1-9	5	5
10-18	14	7
19-27	23	10
28-36	32	3
37-45	41	3
46-54	50	2

Find the mean and standard deviation.

Source: Federal Communications Commission.

$$\bar{x} = \frac{5 \cdot 5 + 14 \cdot 7 + 23 \cdot 10 + 32 \cdot 3 + 41 \cdot 3 + 50 \cdot 2}{5 + 7 + 10 + 3 + 3} = 22.4$$

$$s = \sqrt{\frac{30(5^2 \cdot 5 + 14^2 \cdot 7 + 23^2 \cdot 10 + 32^2 \cdot 3 + 41^2 \cdot 3 + 50^2 \cdot 2) - (5 \cdot 5 + 14 \cdot 7 + 23 \cdot 10 + 32 \cdot 3 + 41 \cdot 3 + 50 \cdot 2)^2}{30(30-1)}} = 12.9$$

