

A2.S.4: Dispersion 1: Calculate measures of dispersion (range, quartiles, interquartile range, standard deviation, variance) for both samples and populations

- 1 The table below shows the first-quarter averages for Mr. Harper's statistics class.

Statistics Class Averages

Quarter Averages	Frequency
99	1
97	5
95	4
92	4
90	7
87	2
84	6
81	2
75	1
70	2
65	1

What is the population variance for this set of data?

- 1) 8.2
- 2) 8.3
- 3) 67.3
- 4) 69.3

- 2 The following is a list of the individual points scored by all twelve members of the Webster High School basketball team at a recent game:

2 2 3 4 6 7 9 10 10 11 12 14

Find the interquartile range for this set of data.

- 3 The heights, in inches, of 10 high school varsity basketball players are 78, 79, 79, 72, 75, 71, 74, 74, 83, and 71. Find the interquartile range of this data set.

- 4 The table below shows five numbers and their frequency of occurrence.

Number	Frequency
5	9
7	5
8	8
12	8
14	8

The interquartile range for these data is

- 1) 7
- 2) 5
- 3) 7 to 12
- 4) 6 to 13

- 5 Mayken collected data about the size of the honors classes in her school building. This set of data is shown in the accompanying table.

Class Size	Frequency
8	1
10	3
14	2

Which statement about the range of this sample is true?

- 1) range = mean
 - 2) range > mean
 - 3) range < mean
 - 4) range < standard deviation
- 6 The set of numbers {4, 7, 12} has
- 1) a range of 3 and a median of 7
 - 2) a range of 8 and a median of 7
 - 3) a range of 12 and a median of $7\frac{2}{3}$
 - 4) a range of 8 and a median of $7\frac{2}{3}$
- 7 What is the range for the following data?
52, 32, 61, 82, 63
- 1) 50
 - 2) 58
 - 3) 11
 - 4) 61
- 8 Find the range of the following data:
72, 89, 41, 89, 73, 72, 91

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Answer Section

1 ANS: 3

1-Var Stats L1,L2	σx^2
	67.31102041

REF: fall0924a2

2 ANS:

$Q_1 = 3.5$ and $Q_3 = 10.5$. $10.5 - 3.5 = 7$.

REF: 011430a2

3 ANS:

Ordered, the heights are 71, 71, 72, 74, 74, 75, 78, 79, 79, 83. $Q_1 = 72$ and $Q_3 = 79$. $79 - 72 = 7$.

REF: 011331a2

4 ANS: 2

$12 - 7 = 5$

REF: 011525a2

5 ANS: 3

range = $14 - 8 = 6$. mean = $\frac{1(8) + 3(10) + 2(14)}{6} = 11$. standard deviation ≈ 2.2 .

REF: 010807b

6 ANS: 2

REF: 068432siii

7 ANS: 1

REF: 088428siii

8 ANS:

50

REF: 088708siii