S.ID.A.2: Dispersion 2

1 Given the following table of SAT scores for a class. What is the range of these scores?

Score	Frequency
210	1
370	5
640	7
700	4
790	1

2 What is the sample standard deviation of the data in the table below, rounded to the *nearest tenth*?

Scores	Frequency
50	1
60	2
70	7
80	6
90	3
100	2

1) 12.5 2) 12.8 3) 17.1 4) 18.7

3 A random sample of readings was taken at the site of a radioactive spill. In the information chart below, x is the contamination level in microcuries and f is the number of readings at each contamination level. Compute the sample standard deviation of the contamination levels to the *nearest tenth*.

x	5	10	15	20	25	30	35
f	6	18	10	5	3	2	1

4 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

5 The accompanying table shows the scores on a classroom test.

x_i	f_i
100	7
90	10
80	4
70	4

What is the population standard deviation for this set of scores?
1) 10.2 2) 10.4 3) 25 4) 88

6 The table below displays the number of siblings of each of the 20 students in a class.

Number of Siblings	Frequency
0	2
1	5
2	7
3	4
4	2

What is the population standard deviation, to the *nearest hundredth*, for this group?
1) 1.11 2) 1.12 3) 1.14 4) 1.15

7 The scores of one class on the Unit 2 mathematics test are shown in the table below.

Unit 2 Mathematics Test	
Test Score	**Frequency**
96	1
92	2
84	5
80	3
76	6
72	3
68	2

Find the population standard deviation of these scores, to the *nearest tenth*.

8 The table below shows the scores that a class of students received on their latest review quiz.

Score	**Frequency**
95	6
90	7
85	8
80	4

Find the standard deviation of these scores to the *nearest tenth*.

9 Find, to the *nearest tenth*, the standard deviation of this set of data.

x_i	f_i
87	3
89	4
91	3
93	6
95	2

10 Using the scores in the table below, find the standard deviation to the *nearest tenth*.

Scores	Frequency
60	2
65	6
70	4
75	8
80	5

11 The table below shows the set of score data for an English examination.

x_i	f_i
100	2
90	3
80	6
70	5
60	4

Find the standard deviation of these scores to the *nearest tenth*.

12 The table below shows the weights of ten girls from a ninth-grade class. Determine the standard deviation of these weights to the *nearest tenth*.

Measure of Weight (x_i)	Frequency (f_i)
91	1
96	1
105	2
111	3
113	2
114	1

13 The table below shows the scores of 40 students on an advanced placement mathematics examination. Find the standard deviation to the *nearest tenth*.

Score	Number of Students
5	8
4	12
3	14
2	4
1	2

14 The table below shows raw scores on an 80-question entrance examination. Find the standard deviation of these examination scores to the *nearest tenth*.

x_i	f_i
40	5
50	4
60	6
70	3
80	2

15 Using the accompanying set of data, find the standard deviation to the *nearest tenth*.

Measure (x_i)	Frequency (f_i)
80	5
85	7
90	9
95	4

16 Find, to the *nearest tenth*, the standard deviation for the following set of data.

x_i measure	f_i frequency
60	1
75	4
80	3
90	2

17 The table below represents scores earned by students on a math exam. Find the standard deviation of these scores to the *nearest tenth.*

Score x_i	Frequency f_i
88	6
84	7
76	5
72	2

18 The table below represents the weights of 10 girls from the seventh grade class. Find the standard deviation of these weights to the *nearest tenth*.

Measure of Weight (x_i)	Frequency (f_i)
56	1
75	2
82	2
100	3
110	1
120	1

19 A class of students obtained the following results on a test:
4 students received 90%
5 students received 80%
8 students received 70%
3 students received 60%
For the scores, find the mean and standard deviation to the *nearest tenth*.

20 The table below shows the grades for a college statistics class.

Grade (x_i)	Frequency (f_i)
92	2
87	3
82	6
77	9
72	10
67	6
62	4

Find the mean of the data. Find the standard deviation to the *nearest tenth.*

21 Using the following set of data, find the mean and the standard deviation to the *nearest tenth*.

x_i measure	f_i frequency
50	4
58	4
62	3
64	6
65	2
68	1

22 The table below shows the grades for a class of students in Course III math.

Grade x_i	Frequency f_i
98	2
94	1
90	3
86	1
82	4
75	1
71	2
69	1

Find $\bar{x}$, the mean of the data. Find, to the *nearest tenth*, the standard deviation of the data. Which statement is true with this given set of data?
(1) median > mode
(2) median = mode
(3) median < mode

23 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

24 The table below shows the height in inches of ten girls on a basketball team.

Height (x_i)	Frequency (f_i)
62	2
66	1
68	2
72	3
74	2

Find the mode, median, and standard deviation of these heights to the *nearest tenth.*

25 The table below represents the weight, in pounds, of the students in Mrs. Grabenstein's homeroom.

x_i	f_i
68	4
76	4
80	3
82	6
83	2
86	1

Using this set of data, find the mean, median, mode, and standard deviation to the *nearest tenth.*

26 The table below shows the frequency of the average daily temperatures during the month of June. Using this set of data, find the mode and the median. The mean, $\bar{x}$, for these data is 79. Find the standard deviation to the *nearest tenth*.

Temperature (x_i)	Frequency (f_i)
63	5
70	3
78	4
79	3
80	6
84	4
96	5

S.ID.A.2: Dispersion 2
Answer Section

1 ANS:
$790 - 210 = 580$

REF: 018119siii
2 ANS: 2 REF: 061625a2
3 ANS:
7.2

REF: 089438siii
4 ANS: 3 REF: fall0924a2
5 ANS: 1 REF: 060917b
6 ANS: 2 REF: 081509a2
7 ANS:
7.4

REF: 061029a2
8 ANS:
5.1

REF: 080342siii
9 ANS:
2.6

REF: 080039siii
10 ANS:
6.3

REF: 010037siii
11 ANS:
12.3

REF: 019739siii
12 ANS:
7.4

REF: 088137siii
13 ANS:
1.1

REF: 019636siii
14 ANS:
12.8

REF: 069536siii

15 ANS:
4.9

REF: 019539siii
16 ANS:
8.1

REF: 068142siii
17 ANS:
5.6

REF: 088640siii
18 ANS:
18.3

REF: 018940siii
19 ANS:
75, 9.7

REF: 068337siii
20 ANS:
75, 7.9

REF: 069036siii
21 ANS:
60, 5.6

REF: 018441siii
22 ANS:
84, 9.2, 2

REF: 018742siii
23 ANS: 3

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

REF: 010807b
24 ANS:
72, 70, 4.3

REF: 088540siii
25 ANS:
78, 80, 82, 5.6

REF: 068642siii
26 ANS:
80, 79.5, 10.3

REF: 018842siii