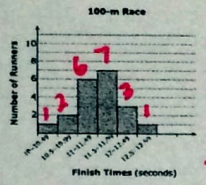
CCM1 Unit 1 Study Guide Name: Key

1. The graph displays the time (in seconds) that several students ran a 100-m race.



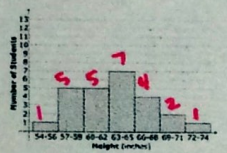
What percentage of students finished with a time less than 11 seconds?

15%

STUDENTS LESS THAN 11 → 3

TOTAL STUDENTS → 20

2. The histogram displays the heights of several students at a school.



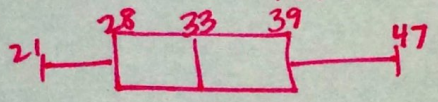
Based on the graph, how many students are 63 inches or taller?

14

14/25 → STUDENTS TALLER THAN 63" / TOTAL STUDENTS

3. Make a box and whisker plot to represent the data.

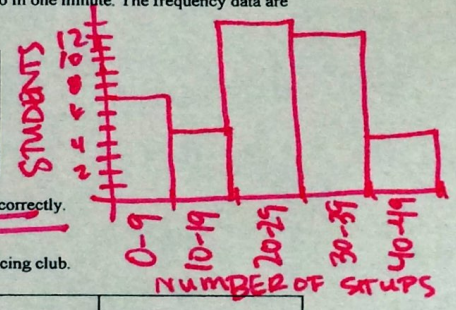
21, 36, 28, 30, 47, 26, 25, 38, 39, 33, 32, 47, 33, 47



4. In a gym class, each student counted how many sit-ups he could do in one minute. The frequency data are shown in the table below. The class has 41 students.

Number of Sit-Ups	0 – 9	10 – 19	20 – 29	30 – 39	40 – 49
Number of Students	7	5	13	12	4

Draw a histogram to represent the data. Be sure to label each axis correctly.



5. The data below shows the rowing times for members of a local boat racing club.

Men	Women		
440 7 m 20 s	447 7 m 27 s	466 7 m 46 s	470 7 m 50 s
445 7 m 25 s	444 7 m 24 s	467 7 m 47 s	471 7 m 51 s
446 7 m 26 s	446 7 m 26 s	459 7 m 39 s	477 7 m 57 s
448 7 m 28 s	439 7 m 19 s	469 7 m 49 s	469 7 m 49 s
448 7 m 28 s		469 7 m 49 s	

Mean(Men) $\frac{4003}{9}$ = 444.$\overline{7}$ sec

Mean(Women) $\frac{4217}{9}$ = 468.5 sec

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What is the *mean* time for the men? The women?

6. Cindy and John are members of an afterschool bowling club. Cindy played 9 games this week, while John played 8 games. The tables below display the number of points they scored in each game.

Cindy's Score	167	150	146	153	183	143	165	162	171

John's Score	163	145	165	160	175	161	150	169

Calculate the mean, median, and standard deviation for Cindy and John. Determine who was the better bowler.

7. How will the standard deviation of the data set below change if each number is increased by 2? {3, 8, 12, 17, 25}

STAY THE SAME

8. A survey asked the ages of people and whether they purchase diet soda or regular soda. The results are shown in table below

311 ÷ 10 = 31.1

Ages of People Surveyed

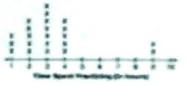
Diet Soda	26	42	41	18	39	22	30	34	37	22
Regular Soda	16	48	32	21	26	41	35	22	46	27

314 ÷ 10 = 31.4

What is the difference in the mean age of those who purchase diet soda to those who purchase regular soda?

31.4 − 31.1 = 0.3

9. The line plot below shows the number of hours each member of a basketball team spent practicing the week before the team's first game.



Describe the shape of the distribution of the data.

SKEWED RIGHT

10. The number of points a basketball team scored in 8 games are shown below.

56, 58, 65, 74, 48, 59, 70, 100

How did scoring 100 points affect the mean and median of the data?

INCREASES THE MEAN & MEDIAN

11. During each six-week grading period, the students in Mr. Welsh's math class are allowed to drop their lowest test score. Kim had the following scores: 95, 87, 81, 77, 79, 99, and 68. If Kim scores a 57 on her next test, which measure will be *most affected*, mean, median, IQR, or standard deviation.

MEAN 3.4 Difference

12. A data set is normally distributed. As data points are removed from both ends of the range, what happens to the display of data?

BECOMES MORE PEAKED

	BEFORE	AFTER
Mean	83.7	80.3
Median	81	80
IQR	95-77=18	91-72.5=18.5
STANDARD DEVIATION	10.75	13.72