

**Answer completely and show all of your work.**

Hayden had some time between events at a swim meet, so he decided to ask his teammates a few questions each:

- 1 • What is your best time in the 100 meter freestyle?
- 2 • What is your favorite stroke?
- 3 • How tall are you (in inches)?
- 4 • How many events are you swimming today?
- 5 • How many swimmer are on the team?

1. Which of these questions are statistical questions?

~~Stat: 1, 3, 4~~ ~~Categorical: 2, 5~~  
1, 3, 4

2. Identify each of the following variables as Numerical (N), or Categorical (C).

- a. Event number C
- b. Height N
- c. Number of swimmers on the team N
- d. Time attained in the 200 meter breast stroke N
- e. Age N

3. The times of the first 10 swimmers Hayden polled for the 100 meter Freestyle are given below.

1:13.67	1:05.92	1:08.63	59.82	58.23
1:02.83	57.94	1:01.45	58.03	1:00.31

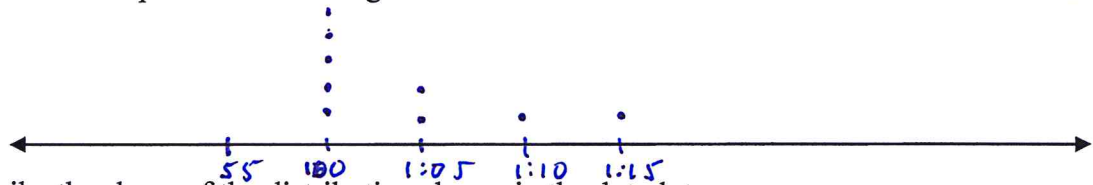
- a. Compute the mean time for these swimmers.

Mean = 62.683 or 1:02.683

- b. Compute the median time for these swimmers.

Median 1:00.88

- c. Construct a dot plot for the times given for the swimmers rounded to the nearest 5 seconds.



- d. Describe the shape of the distribution shown in the dot plot.

Skewed right

4. What would happen to the mean and median if the time of 1:13.67 was changed to 2:02.02?

It would significantly raise the mean, but would not change the median

**Answer completely and show all of your work.**

1. Variables can be classified as either Categorical (C) or Numerical (N). Classify each of the following.

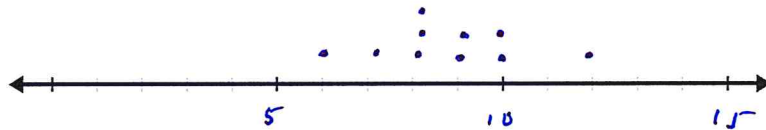
- a. Your favorite sports team C
- b. The jersey numbers on the uniforms for your team C
- c. Time it takes you to run one mile N
- d. Your height N

2. List a set of ten *possible* observations based on 1c above. Plot the data on a dot plot.

List: 10:02, 9:51, 8:32, 6:29, 8:02, 7:52, 12:12,  
7:15, 8:19, 9:20

Dot Plot:

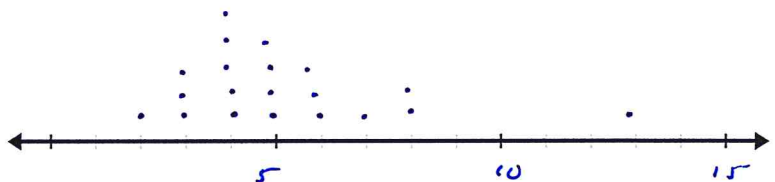
(rounded to the minute)



3. Below are the results of a survey taken in class, asking how many family members live in their household.

3	4	3	3	6	5	8	4	5	2
5	4	4	8	6	7	13	6	5	4

- a. Create a dot plot of the data.



- b. What shape is the distribution?

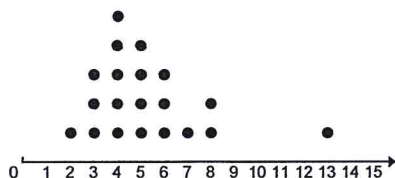
relatively uniform (w/ outlier) or skewed right

- c. Are there any unusual values in this data set? If so, what might be possible reasons for this?

Yes, the 13 - large house w/ several generations in it.

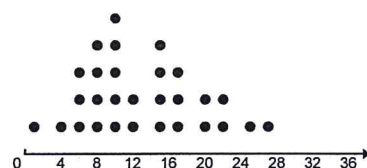
4. Identify each of the following as skewed left, skewed right, and approximately uniform.

a.



same as 3(c)

b.



relatively normal / approximately

5. Determine the mean and the median of the following data. Show your steps.

9	4	3	3	6	5	8	4	5	2
7	4	4	8	6	7	13	6	5	4

Add all & divide by 20

order, ave. of 10<sup>th</sup> + 11<sup>th</sup>  
(both 5)

Mean 5.65

Median 5

6. Below is the median and the mean of the ages of the people in an after school day care. Explain how this might happen. Median: 9 years old. Mean: 15 years old.

The counselors were factored into the group of ages.

7. Below is a <sup>table</sup> dot plot of the number of minutes a student chats on google hangouts during the week. Find the ~~median and mean of the data.~~ Average per day or Explain.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
15	30	0	10	60	100	75

Mean 55.71 minutes

Median                     

Explain: More time allowed on weekends