

# 11.3 Distributions

## NOTES

### MATH 7

Write your  
questions here!



#### Orange M&M's

Every student in class gets a little snack pack of M&M's. Bob opens his M&M's and has 8 orange out of 40 in his snack pack. According to Bob's sample, how many orange M&M's should you get in a party bucket of 850 M&M's?

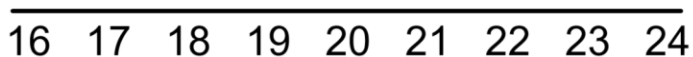
#### Satisfied Customers

Telecom surveyed 500 of its customers and found that 42% are satisfied with their service. If Telecom has 8400 customers, how many are satisfied with their service?

### Distribution of Data

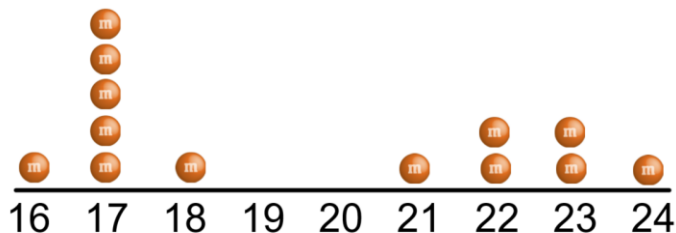
#### Brust's Class

Student	% orange
Bob	20
Bill	18
Beth	21
Barry	20
Brook	19
Bing	19
Brock	20
Brooke	21
Bethanie	19
Billy Bob	23
Bella	18
Blake	19
Beatrice	17

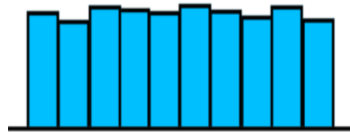
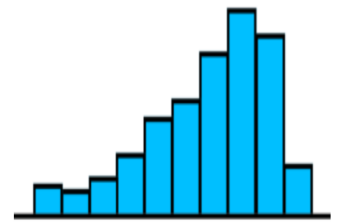
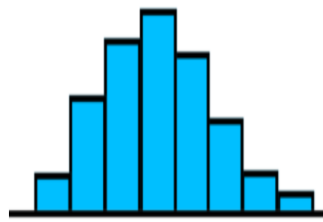
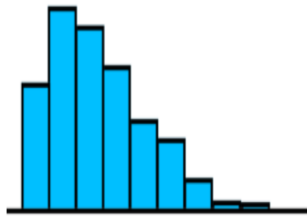


#### Martin's Class

Student	% orange
Mark	16
Mary	23
Macy	17
Melissa	17
Mave	22
Maggie	17
Mason	21
Malcolm	22
Mozart	24
Mork	17
Mindy	18
Maddy	23
Matthew	17

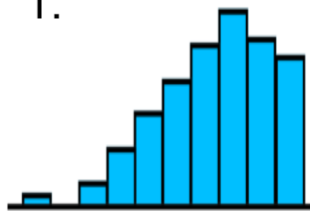


## Types of Distributions

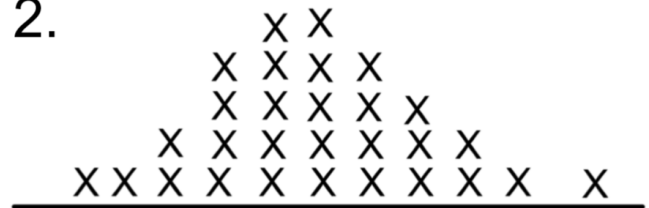


### YOU TRY!!!

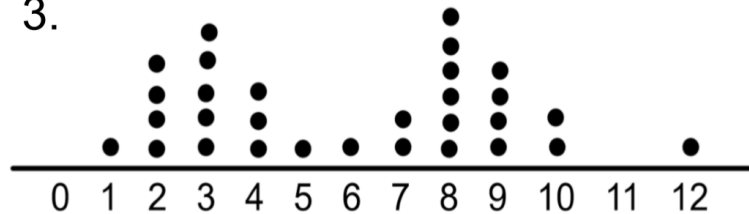
1.



2.



3.



### SUMMARY:

Now,  
summarize  
your notes  
here!



Use each sample to draw inferences about the population.

1. Generic University wanted to know how students felt about their education. They conduct a simple random sample of 500 students. 80% of the students were satisfied with their education. If the university has 12,000 students, how many students do you think will be satisfied with their education?
2. A large company wants to find out which health plan its employees would prefer. They randomly select 50 employees from a list of all employees. 40 of the 50 employees prefer Health Line. If the company has 2800 employees, how many will prefer Health Line?

3. Bob records the color of cars passing by. Use his sample to predict the following.

Color	Percent
White	40
Black	35
Red	25

If 80 cars drove by...

- a. Predict how many would be White.
- b. Predict how many would be Black.
- c. Predict how many would be Red.

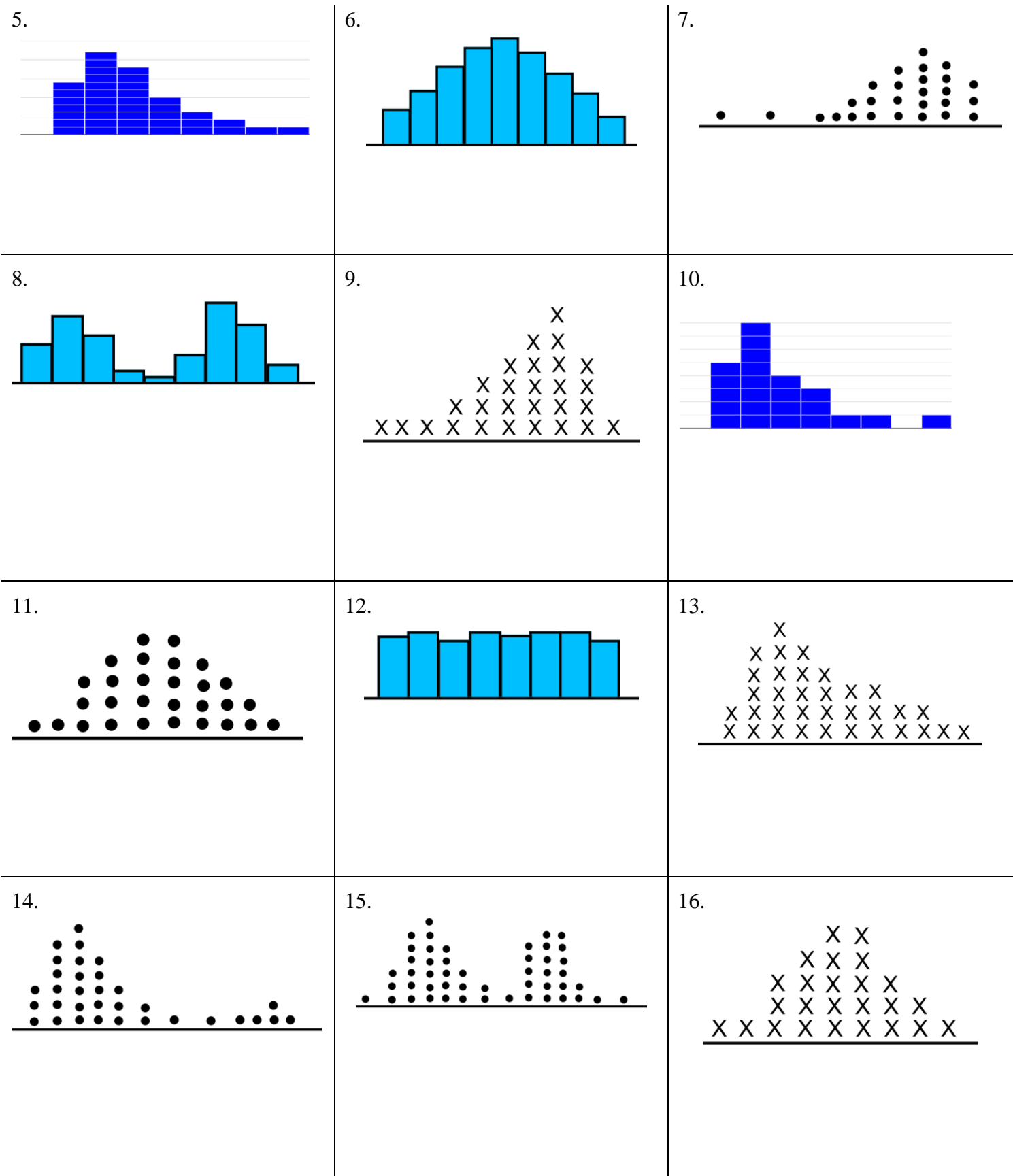
4. Bob surveys 50 random 7<sup>th</sup> graders at Generic MS on their favorite super hero. Use his sample to predict the following.

Color	# students
Hulk	8
Wolverine	24
Iron Man	18

If there are 400 7<sup>th</sup> graders at Generic MS...

- a. Predict how many students favorite hero is Hulk.
- b. Predict how many students favorite hero is Iron Man.

Describe each distribution as Normal, Skewed Right, Skewed Left, Uniform or Bimodal



**Use the data to answer the following.**

17. Bob teaches karate. He looks over his list of students enrolled in his class to see their ages.

8, 16, 6, 7, 8, 8, 15, 18, 9, 16, 15, 16, 6, 8, 16, 8, 18, 7

a. Make a dot plot of the data.

b. Describe the distribution of data.

c. Write a sentence or two describing the age of students in Bob's karate class.

18. Bob teaches karate. He looks over his list of students enrolled in his class to see their ability.

NOTE: Color of belt shows ability from best (black belt = expert) to worst (white belt = novice)

<b>Belt Color</b>	<b>#</b>
Black	2
Brown	4
Blue	7
Green	18
Yellow	24
White	20

a. Make a bar graph of the data.

b. Describe the distribution of data.

c. Write a sentence or two describing the ability of students in Bob's karate class.

- Mr. Sullivan surveys 50 students for the 7<sup>th</sup> grade. He finds that 32 of students surveyed chose math as their favorite subject. There are 140 students in the 7<sup>th</sup> grade. According to the results of the survey, how many students in the 7<sup>th</sup> grade would chose math as their favorite subject?
- The game Among Us randomly assigns you a role. The table below shows the percent of time each role is assigned.

Role	Percent
Crewmate	80
Imposter	10
Engineer	5
Doctor	5

If Mr. Kelly plays Among Us 30 times today, how many games should he be the Imposter?

### EXIT TICKET –

Mr. Kelly gave a test to his Algebra class. He entered the scores into a data analysis programming. Use the computer output to answer the following:

Stem	Leaf
3	3 5 6 8
4	2 5 5 6 7 7 7 8 8 9
5	2 4 6 8 8
6	5 8
7	4 5
8	0 1 3 3 3 3 7
9	2 3 6 9

KEY:

7 | 4 = 74%

Minimum:	33
Maximum:	99
Range:	66
Count:	34
Sum:	2126
Mean:	62.53
Median:	57
Mode:	83
Standard Deviation:	20.1
Variance:	404

- Describe the distribution of the data to Mr. Kelly.
- What is the mean? Is the mean a good measure of center for the Algebra test scores? Explain.
- How did Mr. Kelly's students do on the Algebra test?