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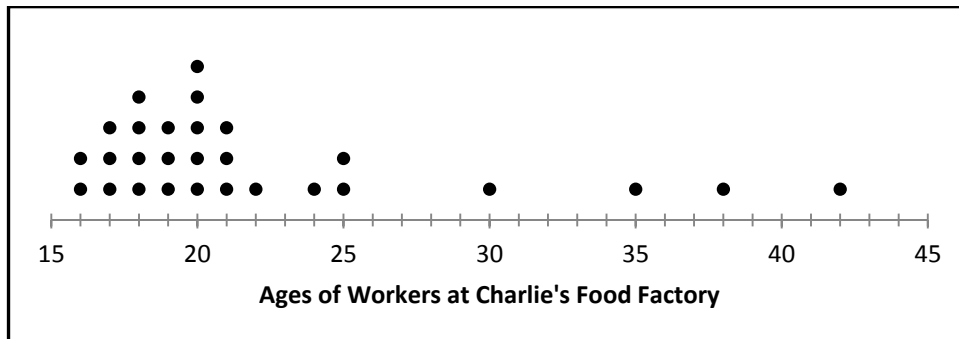
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GRAPHICALLY REPRESENTING DATA COMMON CORE ALGEBRA I



Quantitative data on a single variable is often collected in order to understand how a characteristic of a group differs amongst the group members or between groups. When we ask a question like “How old is a typical fast food worker?” it is helpful to take a **survey** and then see graphically how the ages differ amongst the group.

Exercise #1: Charlie’s Food Factory currently employs 28 workers whose ages are shown below on a **dot plot**. Answer the following questions based on this plot.



- (a) How many of the workers are 18 years old? (b) What is the **range** of the ages of the workers?
- (c) Would you consider this distribution symmetric? (d) The mean (average) age for a worker is 22 years old. Why is this average not representative of a typical worker?

Exercise #2: A farm is studying the weight of baby chickens (chicks) after 1 week of growth. They find the weight, in ounces, of 20 chicks. The weights are shown below. Construct a dot plot on the axes given.

2, 1, 3, 4, 2, 2, 3, 1, 5, 3, 4, 4, 5, 6, 3, 8, 5, 4, 6, 3

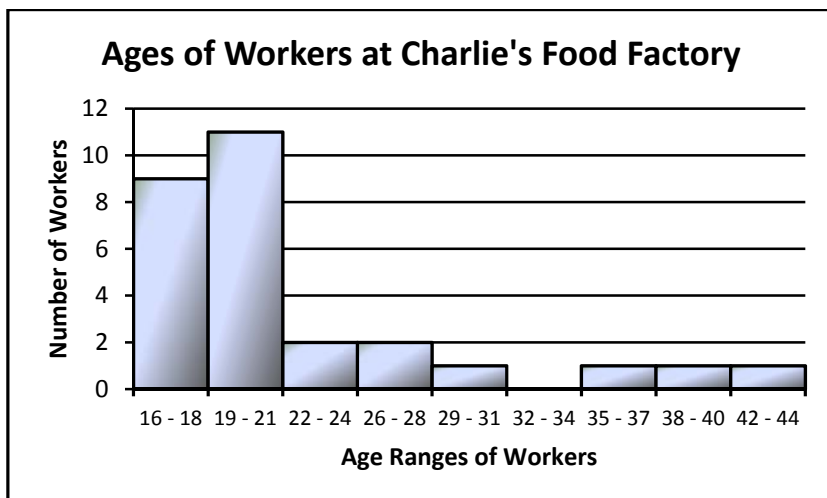


Exercise #3: The following **histogram** shows the ages of the workers at Charlie's Food Factory (from Exercise #1) but in a different format.

(a) How many workers have ages between 19 and 21 years?

(b) What is the disadvantage of a histogram compared to a dot plot?

(c) Does the histogram have any advantages over the dot plot?



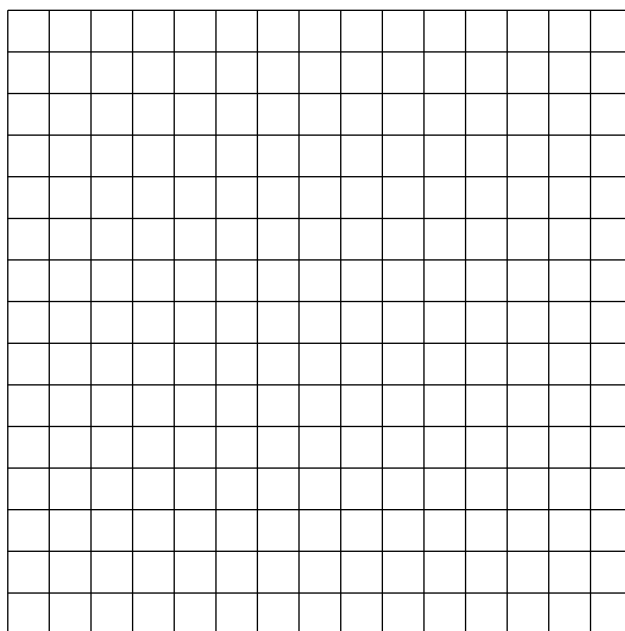
Exercise #4 The 2006 – 2007 Arlington High School Varsity Boy's basketball team had an excellent season, compiling a record of 15 – 5 (15 wins and 5 losses). The total points scored by the team for each of the 20 games are listed below in the order in which the games were played:

76, 55, 76, 64, 46, 91, 65, 46, 45, 53, 56, 53, 57, 67, 58, 64, 67, 52, 58, 62

(a) Complete the frequency table below.

POINTS SCORED	TALLY	FREQUENCY
40 - 49		
50 - 59		
60 - 69		
70 - 79		
80 - 89		
90 - 99		

(b) Construct the histogram below.

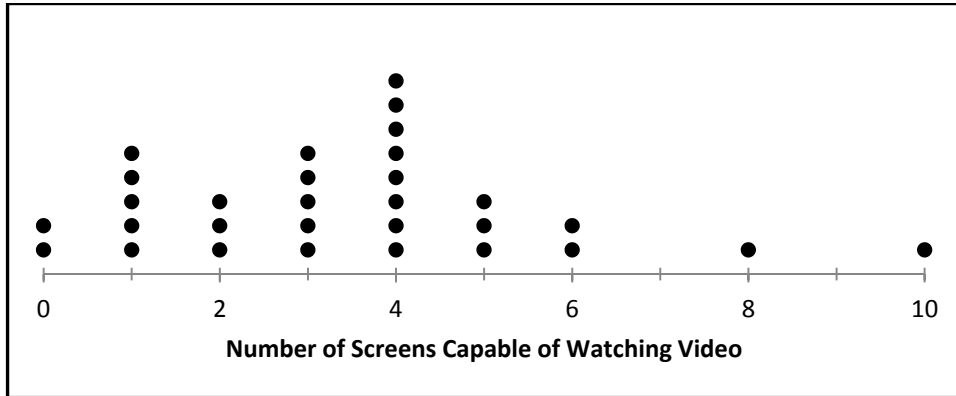


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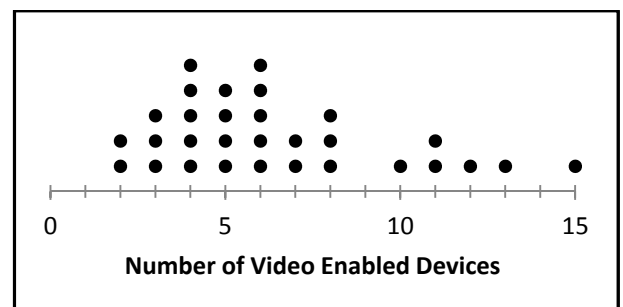
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GRAPHICALLY REPRESENTING DATA
COMMON CORE ALGEBRA I HOMEWORK

A local marketing company did a survey of 30 households to determine how many devices the household contained that family members watched video on (i.e. TV's, tablets, smart phones, etcetera). The dot plot of the responses is shown below.



- How many households have three devices capable of showing video on them?
 - 1
 - 2
 - 7
 - 5
- More households had 4 devices to watch video on than any other number. Which of the following is closest to the percent of households that have 4 devices?
 - 22%
 - 34%
 - 27%
 - 45%
- The marketing company would like to claim that the majority of households have either 3 or 4 screens capable of watching video on. Does the information displayed on the dot plot support this claim? Explain your reasoning.
- The same marketing company then surveyed 30 households that contained at least one teenager. The dot plot for the video enabled devices is shown below. The mean number of screens for the first survey was 3.4. Based on the second dot plot, do you think its mean will be higher or lower? Explain.



On a recent Precalculus quiz, Mr. Weiler found the following distribution of scores, which are arranged in 5 point intervals (with the exception of the last interval).

5. How many students scored in the 75 to 79 point range?

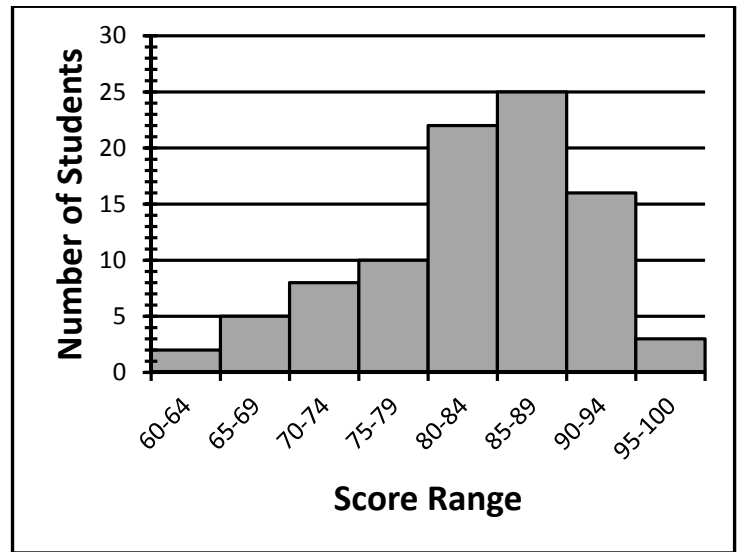
(1) 8 (3) 25
(2) 10 (4) 5

6. Students do not pass the quiz if they receive lower than a 70. How many students did not pass?

(1) 8 (3) 7
(2) 5 (4) 15

7. How many total student took the quiz?

(1) 25 (3) 56
(2) 104 (4) 91



8. Twenty-two students scored in the 80 to 84 range on this test. Does the histogram provide us with enough information to conclude that a student must have scored on 82 on this test? Explain your thinking.

9. A random survey of 100 cars found the following frequency distribution for the fuel efficiency of the car, as measured in miles per gallon. Construct a histogram below that effectively shows the distribution of this data set.

Fuel Efficiency (miles per gallon)	Number of Cars
10 to 14	4
15 to 19	17
20 to 24	36
25 to 29	24
30 to 34	10
35 to 39	6
40 to 44	3

