

## Exam 1

Student Name: \_\_\_\_\_

Student ID#: \_\_\_\_\_

Each problem is worth 10 points. Give a complete solution to receive the full credit!

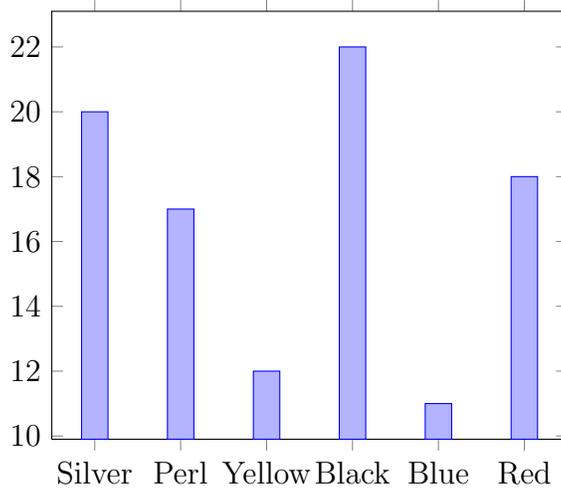
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1. For a Physics course containing 10 students, the maximum point totals for the 10 students are given in the following stem-plot.

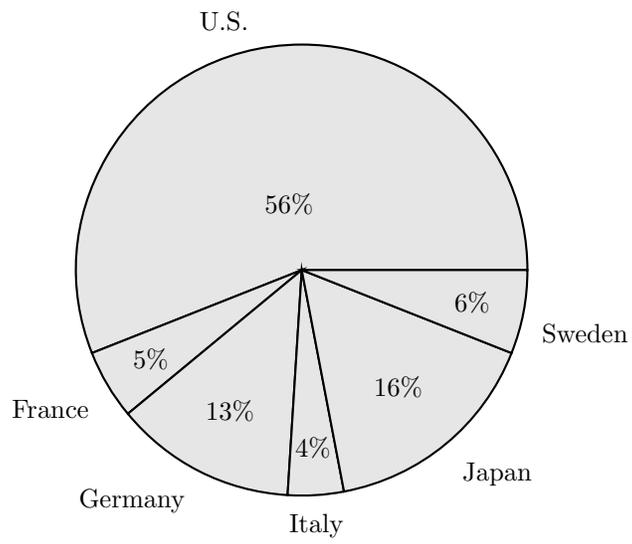
11		6	8	
12				
13		3	7	
14				
15		1	4	8
16		2	9	
17		9		

Find the mean and the median score for these students.

2. The bar graph below gives the distribution of the most popular colors for luxury cars made in North America in 2005. Approximately what percent of luxury cars made in North America in 2005 were NOT black?



3. Plot the bar graph which is equivalent to the following pie chart.



4. For a Physics course containing 10 students, the maximum point totals for the 10 students are given in the following stem-plot.

12		6	8	
13		1	4	8
14		3	7	
15		2	9	
16				
17				
18		9		

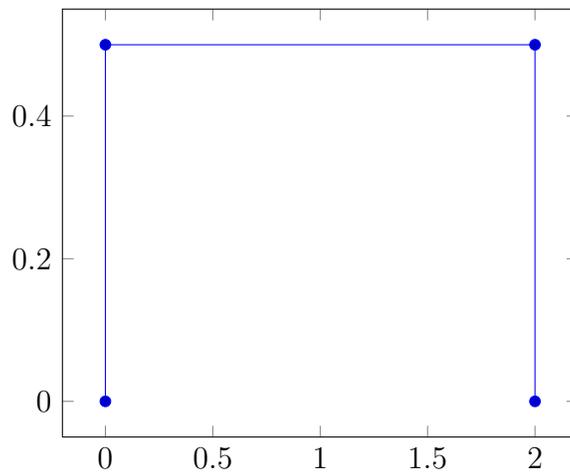
Find variation and the standard deviation assuming that the data is coming from a sample set.

5. For a Physics course containing 10 students, the maximum point totals for the 10 students are given in the following stem-plot.

11		6	8	
12		1	4	8
13		3	7	
14		2	9	
15				
16		9		
17				

Draw the box-plot and the five-number summary for the given stem-plot.

6. For the density curve,



what percent of the observations lie above 0.7?

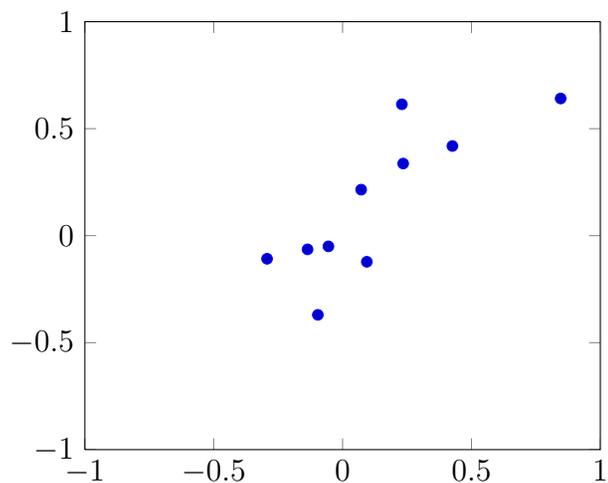
7. If  $Z \sim N(0, 1)$  compute.

(a)  $P(Z > 1.62)$

(b)  $P(-1.5 < Z < 1.2)$

8. Scores on the SAT verbal test in recent years is  $X \sim N(504, 111)$ . How low must a student score to place in the bottom 5% of all students taking the SAT?

9. The form of the relationship in the following scatter-plot



might best be described as:

- (a) negative
- (b) curved
- (c) extrapolated
- (d) clustered

10. A study found a correlation of  $r = -0.61$  between the gender of a worker and his or her income. You may correctly conclude.

- (a) Women earn more than men on the average.
- (b) Women earn less than men on the average.
- (c) An arithmetic mistake was made. Correlation must be positive.
- (d) This is incorrect because  $r$  makes no sense here.