

MAT150.5 Statistics Midterm Practice Exam

Problem#1

The data set lists the prices (in dollars) of 30 portable global positioning system (GPS) navigators. For this question, round all answers to the nearest **tenth, as needed**.

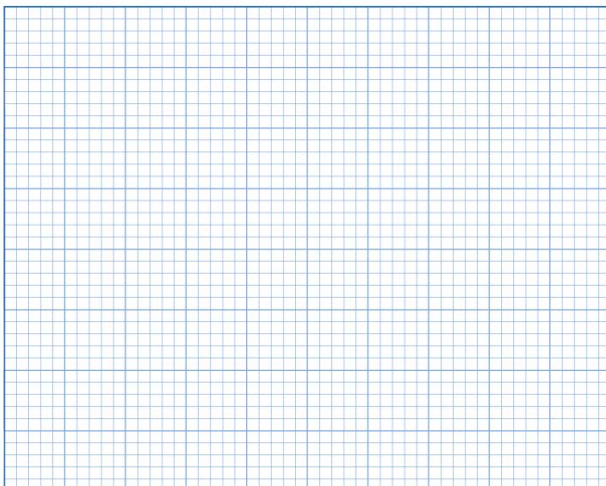
128 100 180 150 200 90 340 105 85 270
 200 65 230 150 150 120 130 80 230 200
 110 126 170 132 140 112 90 340 170 190

Construct the frequency table by using n classes. (You can make your own n)

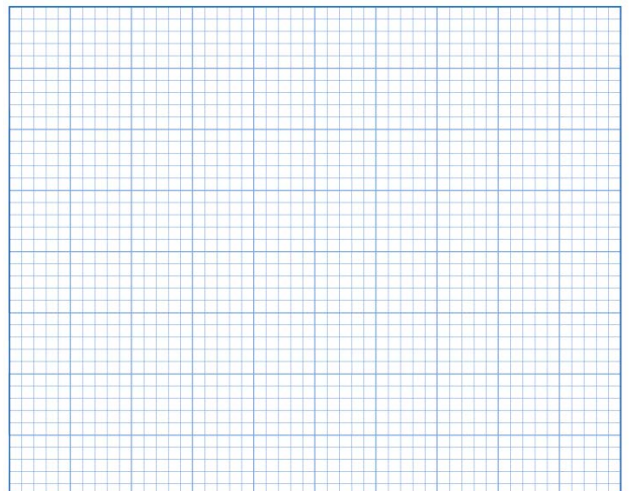
Class Limit	f	Class Midpoint	Cumulative Frequency	Class Boundary

Problem#2

(a) Create a frequency polygon to represent the above data.
above data.



(b) Create an ogive to represent the above data.



Problem # 3 For the following **Sample** data set find:

63 49 36 43 52 43 38 50 40

a) The **mean**

b) The **standard deviation** and **variance** using either the **definition formula** *OR* the **computational (shortcut) formula**.

Problem # 4 The following frequency distribution table represents ages of the residents of Medicine Lake, Montana, in 2010. Find the mean, standard deviation and variance for the frequency distribution table.

Age	Frequency (f)	Midpoints (x)	$f \cdot x$	x^2	$f \cdot x^2$
0 – 4	7				
5 – 9	11				
10 – 14	10				
15 – 19	9				
20 – 24	3				

Problem # 5a(example 1) The table shows the number (in thousands) of earned degrees, by level and gender, conferred in the United States in a recent year.

		Gender		
		Male	Female	Total
Level of degree	Associate's	361	581	
	Bachelor's	734	982	
	Master's	292	439	
	Doctoral	80	84	
	Total			

- a) If a person is selected at random, find the probability that the person earned a master's degree or is a male.
- b) If a person is selected at random, find the probability that the person earned a doctorate given that the person is a female.
- c) If a person is selected at random, find the probability that the person does not earn an associate degree.

Problem #5b(example 2) In a large shopping mall, a marketing agency conducted a survey on credit cards. The results are shown in the table.

Employment Status	Owens one credit card (O)	Owens two credit cards (T)	TOTAL
Employed (E)	46	63	
Unemployed (U)	16	25	
TOTAL			

- a) If a person is selected at random, find the probability that the person does not own two credits cards.
- b) If a person is selected at random, find the probability that the person owns one credit card, or the person is employed.
- c) If a person is selected at random, find the probability that the person owns exactly two credit cards given that the person is unemployed.

Problem #7 From the table below, find the expected number of workouts in a week.

$x = \# \text{ of workout in a week}$	$P(x)$
0	$1/10$
1	$1/10$
2	$1/5$
3	$1/5$
4	$2/5$

Problem #8 Counting Principle, Combination, and Permutation (bonus or optional topics, please follow your instructor).