

RAMAPO-INDIAN HILLS SCHOOL DISTRICT

Dear Ramapo-Indian Hills Student:

Please find attached the summer packet for your upcoming math course. The purpose of the summer packet is to provide you with an opportunity to review prerequisite skills and concepts in preparation for your next year's mathematics course. While you may find some problems in this packet to be easy, you may also find others to be more difficult; therefore, you are not necessarily expected to answer every question correctly. Rather, the expectation is for students to put forth their best effort, and work diligently through each problem.

To that end, you may wish to review notes from prior courses or on-line videos (www.KhanAcademy.com, www.glencoe.com, www.youtube.com) to refresh your memory on how to complete these problems. We recommend you circle any problems that cause you difficulty, and ask your teachers to review the respective questions when you return to school in September. Again, given that math builds on prior concepts, the purpose of this packet is to help prepare you for your upcoming math course by reviewing these prerequisite skills; therefore, the greater effort you put forth on this packet, the greater it will benefit you when you return to school.

Please bring your packet and completed work done on the packet to the first day of class in September. Teachers will plan to review concepts from the summer packets in class and will also be available to answer questions during their extra help hours after school. Teachers may assess on the material in these summer packets after reviewing with the class.

If there are any questions, please do not hesitate to contact the Math Supervisors at the numbers noted below.

Enjoy your summer!

Ramapo High School
Michael Kaplan
mkaplan@rih.org
201-891-1500 x2255

Indian Hills High School
Amanda Zielenkiewicz
azielenkiewicz@rih.org
201-337-0100 x3355

AP STATISTICS SUMMER ASSIGNMENT

Welcome to AP Statistics!!! This course is like no other mathematics course in that the focus of this course will consist of more written expression than computation. You will analyze data, support your opinion, and apply conclusions to real life situations. It is going to be a very exciting year!

The summer assignment is composed of two parts.

1. Reading and vocabulary: You will use a free online Statistical tutoring site that will give you information on variables and data displays. While reviewing the information on the site, you will be completing a vocabulary list on the following pages. Follow the steps below:
 - Go to www.stattrek.com
 - Click on “AP Statistics” then “AP Tutorial”
 - On the upper left side of the screen is a list of general topics. Under each general topic is a list of subtopics. You will read the following subtopics to complete the vocabulary list:

General Topic: Exploring Data

Subtopics:	Variables
	Population vs Sample
	Central Tendency
	Variability
	Position

General Topic: Charts and Graphs

Subtopics:	Charts and graphs
	Patterns in data
	Dotplots
	Histograms
	Stemplots
	Boxplots
	Scatterplots
	Comparing data sets

2. Practice problems: After reading all the material above, you should be able to create the graphs requested from the data given.
3. A graphing calculator is required for this course. The TI-Nspire, TI-84+, TI-84, or TI-83+ is recommended.
4. This packet is due the first day of class in September. Please feel free to email me if you have any questions or concerns kdeamer@rih.org (Ramapo) or jdinan@rih.org (Indian Hills).

Part 1: Vocabulary

Please define each of the following terms from the information on the stattrek website. When asked to provide an example, write a unique example or sketch, not one from the website.

1. Categorical variables

Example:

2. Quantitative variables

Example:

3. Discrete variables

4. Continuous variables

5. Univariate data

6. Bivariate data

7. Population

Example:

8. Sample

Example:

9. Median

10. Mean

Formula:

11. Outlier

12. Parameter

13. Statistic

14. Range

15. Interquartile range

Formula:

16. Variance

Formula:

17. Standard deviation

Formula:

18. Standard score (z-score)

Formula:

19. Symmetry

Sketch:

20. Unimodal

Sketch:

21. Bimodal

Sketch:

22. Skewed left

Sketch:

23. Skewed right

Sketch:

24. Uniform

Sketch:

2. In a study designed to determine the average death age reported for the population of a major US city, a statistician randomly selected 31 obituaries from the city's largest newspaper. The sample consists of 14 males and 17 females – their age of death is listed in the table below:

MALES

55	98	62	61	74	79	84
90	58	71	70	60	70	93

FEMALES

75	74	82	87	94	60	84	79	75
77	89	75	44	91	68	57	74	

- a. Compute the statistics for the data (use your calculator):

	Males	Females
Mean		
Standard deviation		
Minimum		
Q1		
Median		
Q3		
Maximum		
Range		
IQR		

- b. Construct **two** of the following displays of the data (include both men and women in each picture):
- Parallel boxplots
 - Histograms
 - Back to back stem and leaf plot

- c. In a paragraph, compare the **Shape, Center, Spread,** and **Unusual Characteristics** for the data.

3. We are interested in studying if there is any correlation between a person's height and their weight. The following data shows the height (inches) and weight (pounds) for 15 individuals:

Height	Weight
62	165
58	157
71	192
81	265
74	223
69	211
68	188
71	244
62	215
67	199
85	321
61	170
57	164
56	148
51	153

Construct a scatterplot of the data with height on the x-axis and weight on the y-axis (clearly label the axes and provide a scale & title). Write a sentence or two to describe the linearity, slope, strength, and any unusual features.