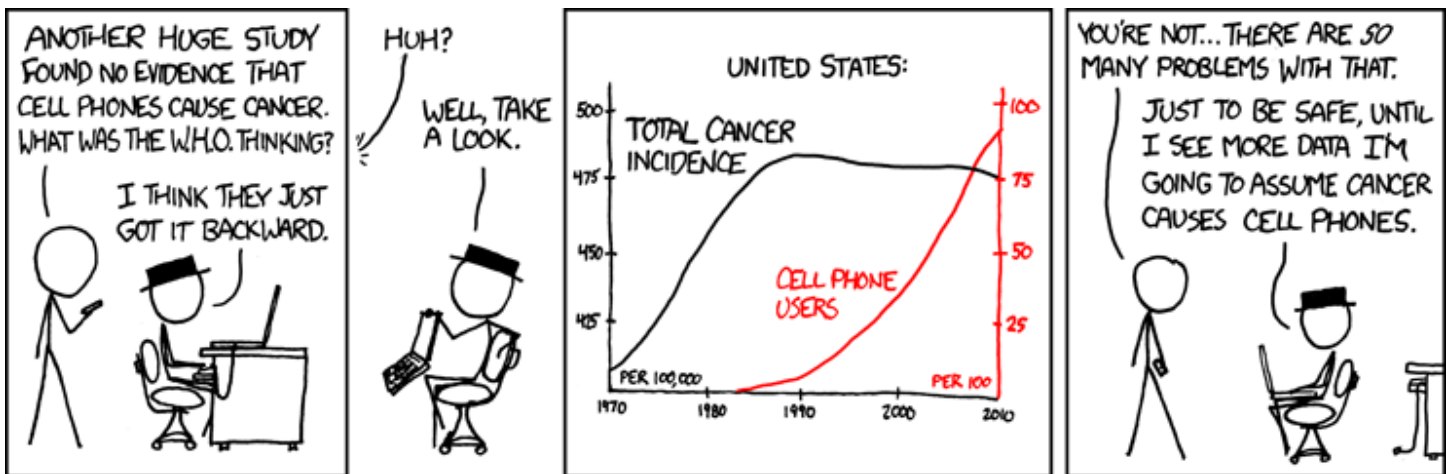


AP Statistics

Summer Assignment



Ms. Adsit

2019-2020 School Year

Welcome future statisticians! This summer you will begin your exploration into data exploration, analysis, and inference. The purpose of this assignment has two objectives:

- 1) To explore current ideas about how we as a society think about data and the people, places, and things the data represent
- 2) Gain an understanding of the skills you will cultivate in AP Statistics

Part One: Getting Set Up for AP Statistics

- 1) Download Google Classroom + the Google apps. (I will give you the code the 1st day of school)
Google Classroom will be used throughout the year to house documents and assignments for class. It is imperative that you are in the class to receive important updates!
- 2) You will need a graphing calculator. A TI-83 is the minimum calculator needed; although, a TI-84 Plus series (or higher) is preferred. Other brands can be used (Casio, HP, etc.), but instructions will only be given on how to use a TI. This is an expensive calculator, so keep your eye out for sales this summer!
- 3) Other supplies needed to be successful in this course:
 - a. Binder or folder for handouts/quizzes/tests
 - b. Pencils with erasers
 - c. Pens – only blue/black ink is permitted
 - d. Notability on iPad
 - e. Google Classroom + Google Drive apps

Part Two: Summer Work Assignment

Answers must be written **explicitly**; that means, if work is required to interpret the solution, then that work must be shown for full credit. You may hand write your answers (in black or blue ink ONLY) or type them. This assignment is due the first day of class in August.

- Check off the news publications you have at home/have regular access to:
 - Globe or New York Times
 - Houston Chronicle
 - Time or Newsweek magazine
 - Other _____
- Do you expect to play a sport: Fall _____ Winter _____ Spring _____
- Do you expect to work after school most/every day? YES NO
- I will attend a weekend practice test in the spring. YES NO If NO, why? _____
- My favorite subject is: English History Science World Language Math
- My least favorite subject is: English History Science World Language Math
- My favorite activities outside of school are _____
- What would I like to study in college? _____
- What would I like to do for a living? _____

Rank how you feel about learning math each of these ways, with ① being your favorite way and ④ being your least favorite way to learn math.

DON'T SOLVE THE PROBLEMS!

①②③④ *Ask me to use logic to solve a challenging problem and to explain my thinking*

You have 8 balls. 7 of the balls have the exact same weight, but 1 ball is slightly larger (you cannot feel the difference). You have a balance scale, but can only use the scale 2 times. How can you find the lighter ball in only 2 weightings? Explain.

①②③④ *Challenge me to use math creatively*

Two lines are parallel if they are in the same plane and never intersect. Take this math concept and apply it to non-mathematical situations or objects. For example, two people might be said to be parallel if they live in the same town but never come in contact with one another. Think of at least three more examples of things that are, figuratively speaking, parallel. Be sure to explain how each example can be considered parallel.

①②③④ *Involve real-life situations and problems people commonly face*

You order 256 T-shirts for your class. After checking the number of shirts carefully, you put them in a storeroom. You tell your class officers to each pick up $\frac{1}{4}$ of the shirts to distribute to their class section. Chris arrives first and takes $\frac{1}{4}$ of the shirts. Later, Jo arrives and takes $\frac{1}{4}$. During lunch, Sam stops by and picks up $\frac{1}{4}$. Finally, just before the final bell, Sasha takes $\frac{1}{4}$ of the shirts. The next day, you are surprised when Jo, Sam, and Sasha tell you that they don't have enough shirts. You know you ordered 256 shirts. Then you discover some shirts are still in the storeroom. Jo, Sam, and Sasha tell you they all followed your instructions. What happened? How many shirts are still in the storeroom and how many do you need to give to Jo, Sam, and Sasha?

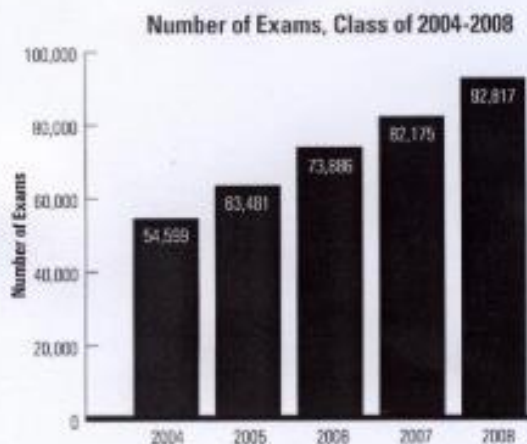
①②③④ *Ask me to find correct answers*

Use divisibility rules to determine if the first number is divisible by the second.

- 1075; 5
- 699; 3
- 385; 6
- 117; 3
- 3242; 3

AP Statistics

U.S. Public Schools: High School Class Data

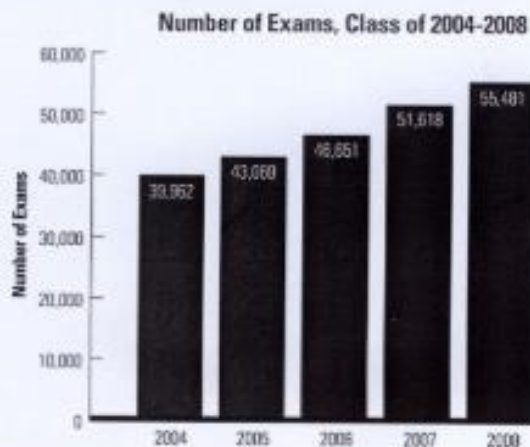


Score Distribution, Class of 2008

Exam Score	Number of Examinees	%
Score of 5	11,132	12.0
Score of 4	20,290	21.9
Score of 3	22,231	24.0
Score of 2	17,538	18.9
Score of 1	21,625	23.3
Total	92,817	

AP Calculus BC

U.S. Public Schools: High School Class Data



Score Distribution, Class of 2008

Exam Score	Number of Examinees	%
Score of 5	23,012	41.5
Score of 4	9,797	17.7
Score of 3	11,082	20.0
Score of 2	3,536	7.1
Score of 1	7,652	13.8
Total	55,481	

Draw insights and conclusions from this data. What am I looking for in your answers?

- Can you read questions carefully so that you answer what is being asked?
- Can you look at data and figure out what is going on?
- Can you write clearly and concisely? (Yes, you may use bullets rather than paragraphs.) NO five paragraph essays are needed. Longer is not better!
- Can you compare and contrast absolute (number) and relative (percentage) changes?
 - Example: Two years ago, a double pad of graph paper cost \$2.98 at CVS. It now costs \$3.79.
 - Absolute change: This is a \$0.81 an increase in cost (\$0.405/year), or
 - Relative change: 27.2% increase (12.3%/year).
- Can you draw conclusions from your analysis?

You may use a calculator.

Using the graphs and data on the previous page, answer these questions. Please re-read the bullet about absolute and relative changes. Include in your analysis the evidence that supports it.

1. Compare and contrast AP Statistics to AP Calculus enrollment.
 - Which course is more popular? How is this popularity changing? Explain with evidence. Include percentages in your answer.

2. Compare and contrast AP Statistics to AP Calculus grade distribution. (Note: The highest score you can earn on an exam is 5.)
 - Which course is more difficult? Explain with evidence.

3. Based on this data, why do you think AP Statistics is a good course for you?