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Laboratory Activity 1 for Math 080: Topics from Chapter 1

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1 Introduction

Steven Levitt is one of the authors of the book Freakonomics. In this TED talk, he explains a statistical analysis done on data from the National Highway Transportation Safety Administration. Pay close attention to the specific data sets used in his presentation.

Answer the following questions and submit as a PDF file to jhanson2@whittier.edu.

2 Questions

1. Identify the *proportional data* listed for car-seats and different types of seat belt.

   1. Unrestrained = 29.3%
   2.In car seat = 18.2%
   3. Wearing lap and shoulder belt = 19.4%
   4. Wearing lap-only belt = 16.7%

2. Around minute 12:00, the speaker shows a graph of raw data of the "reduction of fatalities due to car seats, lap-and-shoulder seat belts, and lap-only seat-belts." Explain how these numbers are 0.1, 0.11, and 0.12, approximately. Where do these numbers come from on the previous slide?

   When you put these numbers, 0.1,0.11 and 0.12 in a graph, you will see almost no diffrence at all. Which can show that car seats are no better than seat belts. Those numbers come from the percenteage of death rates among 2-6 years old in a car accendet. And those percenteges are showed as figured in the graph.

3. At the end of the talk, the speaker is asked a question about *injuries* rather than *fatalities*. How does he argue that seat belts are just as effective as car seats for children above the age of 2? What statistic does he quote for the New Jersey data sample?

   Althought there is a slight diffrence but the speaker argues that the medical researches get the information from the people in the crash, which to my understanding, when you collecet data like these, there is a possiblity that the data might varie for several reasons.