

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.

There are the lap and shoulder seat belts and the lap only seat belts.

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?

The numbers come from how much damage the child would take during the collision.

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?

The speaker argues that there are very small differences and if there were even enough injuries to come up with a perfect answer. The stat that he quotes from the New Jersey data sample is that there is a 10% difference in injuries and they were mostly minor injuries.