

Name: \_\_\_\_\_

**Statistics and Probability**  
**Predictions from a random sample – Homework**

<p>1. You were just assigned a new book to read for English class and it looks pretty long. You open the book to a random page in the middle of a chapter and count 520 words on the two open pages. If the book has 340 pages, predict how many words are in the entire book.</p> <p>Is your sample a valid representation of the whole book? Explain your answer.</p>	
<p>2. When you went home, you complained to your mom about the length of your new book. Your mom opened the book to the first page of chapter 1 (which only has about half the page filled) and counted 120 words in two pages. Based on your mom's sample, estimate many words would be in the entire book.</p> <p>Is your mom's sample a valid representation of the whole book? Explain your answer.</p>	
<p>3. As a newly hired employee for a Marketing and Advertisements company, you are in charge of creating an ad for a new brand of toothpaste. You decide to survey 15 local dentists to see if they would recommend this new brand to their clients. After trying the toothpaste themselves, 4 out of the 15 dentists you surveyed said they would <b>not</b> recommend the new brand. Predict how many of the 200 dentists in the entire state of Maryland <b>would</b> recommend the new toothpaste.</p>	
<p>4. The leadership group at your middle school wants to start a new tradition of Pajama Day Fridays. But first, the principal asked that they get an idea of how many students would be interested in this idea. Design a survey that you could give to predict the number of people in your middle school of 650 students who would support having Pajama Day Fridays. Be sure to think about the survey sample and whether or not your sample would be a valid representation of the whole.</p>	

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