

## Book Club

1. The president of a book club is concerned about the low attendance at the club's most recent book discussion. He wonders whether the considerable length of the books is to blame. For each of the last few books that club members chose, the president notes the number of pages,  $x$ , as well as the number of people who attended the discussion,  $y$ .

The least squares regression line of this data set is  $\hat{y} = 26.666 - 0.016x$

- If a book has one additional page, the least squares regression line predicts \_\_\_\_\_ fewer people will attend the discussion.
- If a book has 50 fewer pages, what is the predicted change in attendance?
- What does the y-intercept indicate? Is it useful?
- If the next book chosen has 350 pages, how many people would the president expect to show up?
- After assigning a book with 400 pages, the president is pleasantly surprised to see 25 people attend the meeting. What was the residual?

2. The president opens a new chapter of the club specifically for people who read manga. He observes several meetings and keeps track of the length of the assigned manga and the attendance for that meeting.

The least squares regression line of the manga data set is  $\hat{y} = 25.08 + 0.024x$

- Describe the difference between the regular book club attendance-to-page relationship with that of the manga club.
- For each additional page of manga, how does attendance change?

**[SEE BACKSIDE FOR MORE]**

- c) For 50 pages additional pages of manga, how does attendance change?
  
- d) How many pages of increase would result in two extra attendees?
  
- e) If a manga has 3050 pages, how many people will attend the book club? Is this sus?