

## 6.3 Binomial & Geometric Distributions

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The screenshot shows a Blackboard quiz interface. At the top, the course title "Statistics AP-Thompson-Year-12462 (66479)" and the topic "Binomial and Geometric distributions" are visible. The user's name "Michael Brodskiy" is in the top right. The quiz progress bar shows "1 of 23 Questions" and an "Assignment Score" of "97.7%". A sidebar on the left lists questions 9 through 16, all marked as "Correct". The main area displays "Question 1 of 23". The question text is: "Biologists estimate that a randomly selected baby elk has a 44% chance of surviving to adulthood. Assume this estimate is correct. Suppose researchers choose 7 baby elk at random to monitor. Let  $X$  = the number that survive to adulthood. Does this scenario describe a binomial setting? Justify your answer." Below the text are five radio button options. The third option, "This is a binomial setting and  $X$  has a binomial distribution with  $n = 7$  and  $p = 0.44$ ", is selected. A green bar at the bottom of the question area indicates the question is "Solved".

Statistics AP-Thompson-Year-12462 (66479) > Activities and Due Dates > Binomial and Geometric distributions

1 of 23 Questions Assignment Score: 97.7% Resources Give Up! Solution Next Question

Question 1 of 23 My Attempt

Biologists estimate that a randomly selected baby elk has a 44% chance of surviving to adulthood. Assume this estimate is correct. Suppose researchers choose 7 baby elk at random to monitor. Let  $X$  = the number that survive to adulthood.

Does this scenario describe a binomial setting? Justify your answer.

- ☐ This is not a binomial setting. The given scenario is not binary.
- ☐ This is not a binomial setting. The number of trials are not fixed in advance.
- ☐ This is not a binomial setting. The probability of success is not the same for each trial.
- ☒ This is a binomial setting and  $X$  has a binomial distribution with  $n = 7$  and  $p = 0.44$ .
- ☐ This is not a binomial setting. We cannot reasonably assume that the outcomes are independent.

Solved