

52. A newly-turned 21-year-old decides to buy a lottery ticket every day until he wins five times. When he has won five times, he will decide if it is worth it to continue buying the tickets. Tickets cost \$5.00 each. A winning ticket will give a \$50.00 prize. The chance of winning the game he will play is 0.025.
- (a) Define the random variable and give its distribution.
 - (b) What is the probability he will play at most 15 times to achieve the fifth win?
 - (c) How many times should he expect to play to win five times?
 - (d) What would you advise the 21-year-old and why?