

Statistics 2

May 2, 2009

Exercises

1. A lottery offers one \$1000 prize, one \$500 prize, and five \$100 prizes. One thousand tickets are sold at \$3 each.
 - (a) Find the expectation of the game if the person buys one ticket.
 - (b) Find the expectation of the game if the person buys two tickets.
2. For a daily lottery, a person selects any three-digit number from 000 to 999. If a person plays for \$1, the person can win \$500.
 - (a) Find the expectation.
 - (b) In the same daily lottery, if a person boxes a number, the person can win \$80. Find the expectation if the number 123 is played for \$1 and boked. (When a number is “boxed”, it can win when the digits occur in any order.)
3. If a 70-year old buys a \$1000 life insurance policy at a cost of \$60 and has a probability of 0.861 of living to age 71, find the expectation of the policy until the person reaches 71.