

Quiz #2 (Solutions)

3.180, p. 151:

The number of possible combinations is $26(26)(10)(10)(10)(10) = 6,760,000$.

Thus, $E(\text{winnings}) = 100,000(1/6,760,000) + 50,000(2/6,760,000) + 1000(10/6,760,000) = \0.031 , which is much less than the price of the stamp.

3.184, p. 152:

Let $Y = \#$ of people in the sample who favor garbage collection by contract to a private company.

Then, Y is binomial with $n = 25$.

a. If $p = 0.80$, $P(Y \geq 22) = 1 - P(Y \leq 21) = 1 - 0.766 = 0.234$,

b. If $p = 0.80$, $P(Y = 22) = 0.1358$.

c. There is not strong evidence to show that the commissioner is incorrect.

3.192, p. 153:

Note that $p(1) = p(2) = \dots = p(6) = 1/6$. From Ex. 3.22, $\mu = 3.5$ and $\sigma^2 = 2.9167$.

The interval constructed of two standard deviations about the mean is $(0.08, 6.92)$ which contains 100% of the possible values for Y .