

# M 362K Post-Class Homework 6

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February 12, 2015

## 3-1

The probability distribution is shown below:

y	$Pr(Y = y)$
0	$\frac{{}_7C_3}{{}_{12}C_3} = \frac{7}{44}$
1	$\frac{{}_5C_1 \cdot {}_7C_2}{{}_{12}C_3} = \frac{21}{44}$
2	$\frac{{}_7C_1 \cdot {}_5C_2}{{}_{12}C_3} = \frac{14}{44}$
3	$\frac{{}_5C_3}{{}_{12}C_3} = \frac{2}{44}$

## 3-4

(a)

The probability distribution is shown below:

s	$Pr(S = s)$
1	$\frac{18}{38}$
2	$\frac{20}{38} * \frac{18}{38}$
3	$\left(\frac{20}{38}\right)^2 * \frac{18}{38}$
$\vdots$	$\vdots$
n	$\left(\frac{20}{38}\right)^{n-1} * \frac{18}{38}$

(b)

We have 20 candies and 18 chewing gums. A person chooses one item at a time and put it back right after. The person stops whenever a chewing gum is selected. The probability distribution of the number of times until that person stops is the same as the situation given in this question

**3-6**

(a)

The probability distribution is shown below:

a	17	18	19	20	21	22	23
$Pr(A = a)$	0	0.23	0.25	0.41	0.05	0.05	0.01

(b)

The ogive diagram is shown in Figure 1

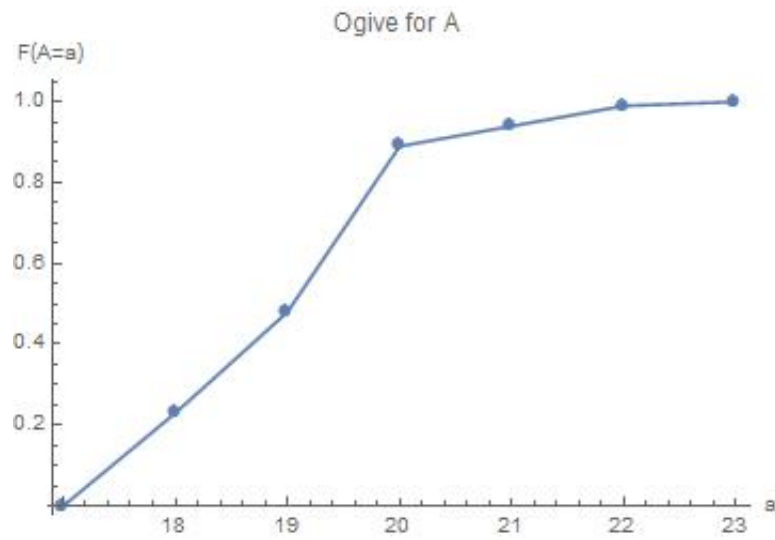


Figure 1: Ggive diagram for A

**3-9**

Let X be the value of a house

Then  $Pr(120 \leq X \leq 500) = 0.75 - 0.4 = 0.35$