

Quiz 4**October 16, 2002**

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1. Fill the empty space and calculate the expected value and standard deviation of the random variable X having the following probability distribution:

X	5	4	9	2	5	4	10
$p(X)$	0.25	0.01	0.34	0.20	0.10	.....	0.06

2. A person is flipping a coin 10 times. The person thinks that the probability of having a Head is $p=0.45$. If X describes the number of times the person gets heads, using the Binomial distribution, calculate the following probabilities and give the detail of your calculation:

a. $P(x=0)=$

b. $P(x=9)=$

c. $P(x=5)=$

d. $P(x=8)=$

e. $P(x=3)=$

f. $P(x=7)=$

g. Fill then the following table that summarizes those probabilities and plot the probability distribution of the number of heads

$x = 0$	$x = 1$	$x = 2$	$x = 3$	$x = 4$	$x = 5$	$x = 6$	$x = 7$	$x = 8$	$x = 9$	$x = 10$
.....	0.0207	0.076	....	0.238	.....	0.159	....	.....	.....	0.00034