DISCRETE RANDOM VARIABLES

TEXT: 4.1, 4.2

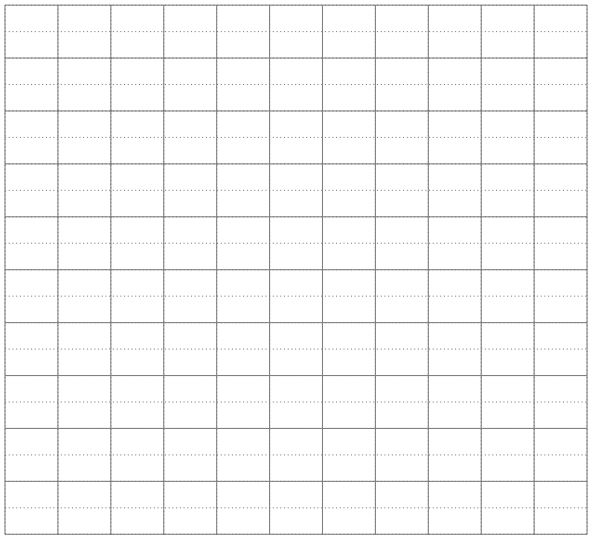
LAST NAME	FIRST NAME	DATE

1 (8 points)**.** A random experiment for this activity consists in tossing two fair six-sided dice.

(a) Construct the sample space for this experiment.

(b) Let Y the random variable with the predicted theoretical distribution of the sum of two fair six-sided dice. Fill out its pmf table, and construct a frequency histogram:

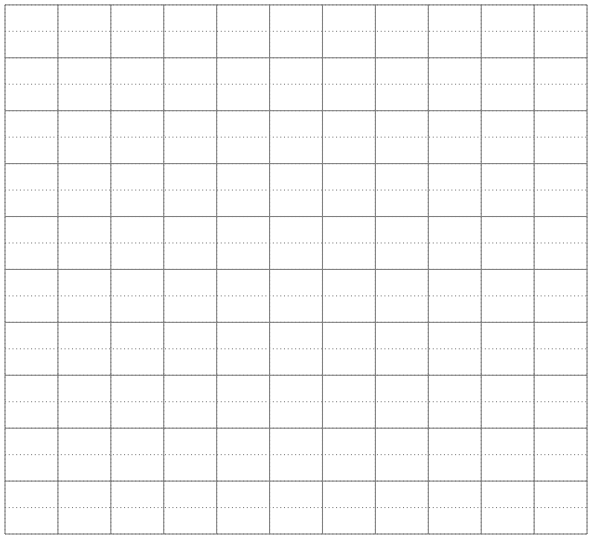
y	$P(Y = y)$
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	



(c) Find EY

(d) Toss the dice at least 20 times (or 50 times if you want a larger sample) to construct the empirical distribution of the random variable X, which is the sum of the values shown. Fill out the following table with your empirical pmf values, and use the grid to construct a frequency histogram for your empirical distribution.

x	tally	$P(X = x)$
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		



(e) Fill out the following table with your empirical cdf values, and use the grid below to construct a cumulative frequency ogive for your empirical distribution.

x	$P(X \leq x)$
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12