DISCRETE PMF

TEXT: 4.1, 4.2

LAST NAME	FIRST NAME	DATE

1 (6 points)**.** Let the variable X have the following probability mass function:

x	$P(X = x)$	$P(X \leq x)$
1	0.80	
10		
25	0.06	
100	0.04	

(a) Complete the table above by finding the probability $P(X = 10)$.

(b) Complete the table above by constructing the cumulative distribution function for X.

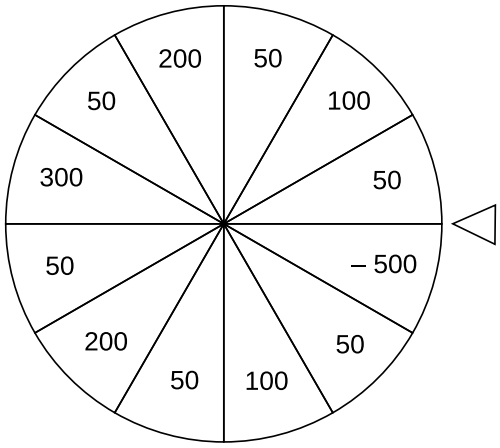
(c) Find the expected value of X.

(d) Find $P(X \leq 10)$

(e) Find $P(X > -1)$

(f) Find $P(X$ is odd$)$

2 (3 points)**.** Consider a casino game where the player spins the prize wheel with 12 sectors, each of equal angular measure. Each sector has the prize amount written on it (in points), and the amounts are as pictured.



(a) Construct the probability mass function for the number of points.

(b) Find the expected value for the number of points.

3 (3 points)**.** A car dealer records how many cars they sold on a given day, for ten days:

Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue
1	0	3	1	1	0	7	4	0	1

(a) Based on this data, construct an empirical probability mass function for the number of cars sold per day.

(b) Find the expected number of cars the dealer can sell per day.