Math 101 - Worksheet for Section 11.5

Name: _____

1. Determine whether the followings are probability distributions. Explain.

x	5	6	7	8
$P(x)$	0.3	0.4	0.5	-0.2

x	5	6	7	8
$P(x)$	0.3	0.4	0.5	0.2

x	5	6	7	8
$P(x)$	0.3	0.4	0.1	0.2

2. Find $E(x) = \sum x \cdot P(x)$ for Problem 2.

x	0	1	2	3	4	5	6	7	$\sum$
$P(x)$	0.19	0.16	0.15	0.21	0.9	0.10	0.08	0.02	
$x.P9x)$									

3. In a mini-roulette game, the wheel has 5 numbers 0, 1, 2, 3, and 4, marked on equally spaced slots. If a player bets \$1 on a number and wins, then the player keeps the dollar and receives an additional \$3. Otherwise the dollar is lost. Find the expected value of the gain.

Gain, x	$P(x)$	$xP(x)$
$\sum$		

4. A player pays \$3 to play the following game: He tosses three fair coins and receives back "payoffs" of \$ 1 if he tosses no heads, \$ 2 for one head, \$ 3 for two heads, and \$ 4 for three heads. Find the players expected net winning.

5. What cost for playing the game in Problem 4 makes it fair?