Name:_____ Math 130 Day 8 In Class Worksheet
Date: Section 6.1: Discrete Random Variables

1. Consider the experiment where you roll a die and draw a card from a deck of cards. Define a random variable on this experiment.

2. A randomly selected 40-year-old man in the U.S. will have a 0.242% probability of dying during the next year. An insurance company charges a $275 premium for a life-insurance policy that pays a $100,000 death benefit. Let X denote the value of this life-insurance policy to the life-insurance company.

a) Find the probability distribution of X

b) Find the expected value of X

c) Find the standard deviation of X

d) Find the variance of X

e) Explain the meaning of the expected value of X

3. You and your friend are playing a hand of Texas Hold'em poker. Pretend that for some reason in this hand, both your and your opponent's hands are exposed (see picture below). Before the last card is dealt, your opponent bets $400. There is already $600 in the pot and you have exactly $400 left in front of you. Should you call?