The table below shows political registrations of 200 residents of the state of Montana.

		PARTY REGISTRATION		
		Dem	**Rep**	**Ind**
GENDER	**Male**	35	45	24
	Female	47	33	16

1. Consider the experiment of randomly selecting one person out of this group. What is the probability that they are

   (a) female? (b) Democrat? (c) female and Democrat?

   (d) female or Democrat? (e) female, given that they are Democrat?

   (f) Democrat, given that they are female?

		X		
		0	**1**	**2**
Y	**0**	0.175	0.225	0.120
	1	0.235	0.165	0.080

2. Give each of the following probabilities. Take $(X = x, Y = y)$ to mean $X = x$ *and* $Y = y$.

   (a) $P(X = 2, Y = 1)$ (b) $P(X = 0)$ (c) $P(Y = 0)$

   (d) $P(X = 2 \mid Y = 1)$ (e) $P(X = 1 \text{ or } Y = 0)$

3. You are flipping a coin and rolling a six-sided die, but both of them are a bit out of the ordinary. The coin is an "unfair" coin that is twice as likely to land heads up as tails. The die has one side with one dot, two sides with two dots, and three sides with three dots. You flip the coin and roll the die. X is the random variable that assigns zero if a heads results on the coin, one if it is tails. Y is the random variable that gives the number rolled on the die. Construct the joint distribution table for the joint distribution $f(x, y)$.