MA 110 Dr. Katiraie PRACTICE FOR QUIZ #7 Spring 2012
SECTIONS 8.2 -- 8.4

NAME Solutions SCORE: _____/ 20
*** RETAIN GRADED PAPERS FOR YOUR RECORDS ***

1. 1800 people were surveyed. The following table contains data about their favorite colors.

	B BLUE	**R** RED	**G** GREEN	**Y** YELLOW	**Pu** PURPLE	**Pi** PINK	**O** ORANGE	TOTALS
WOMEN (**M'**)	80	170	80	20	250	350	30	980
MEN (**M**)	450	100	120	10	5	5	130	820
TOTALS	530	270	200	30	255	355	160	1800

Use the table to calculate the following probabilities.

A. The probability that a person selected at random from this group is a man **and** their favorite color is green. **P(M ∩ G)**

120/1800 = 1/15 ~ .067 or 6.7% (any answer is fine – the first is the preferred)

B. The probability that a person selected is a woman **or** favorite color is red. **P(M' ∪ R)**

(980 + 100)/1800 = 1080/1800 = 3/5 ~ .6 or 60%

C. The probability that a person selected at random is a woman **given that** favorite color is purple. **P(M'|Pu)**

250/255 = 50/51 ~ .98 or 98%

D. The probability that person selected at random has favorite color of red, **given that** the person is a man. **P(R|M)**

100/820 = 5/41 ~ .12 or 12%

E. The probability that a person selected at random from this group is a man **and** their favorite color is not purple. **P(M ∩ Pu')**

(450 + 100 + 120 + 10 + 5 + 130)/1800 = 815/1800 = 163/360 ~ 0.45 = 45%

Blood Type	Male	Female	TOTAL
O	80	370	450
A	150	250	400
B	50	50	100
AB	20	30	50
TOTAL	300	700	1,000

2. Use the table to find the probability that a person is selected at random from the group
Note: Key words have bold type!!

A. has blood type B?

100/1,000 = 0.1

B. is female **and** has blood type B?

50/1,000 = 0.05

C. has blood type B **given that** the person is female?

50/700 = 5/70

D. is female **given that** the person has blood type B?

50/100=0.5

E. the person is female **or** has blood type B?

(700 + 50) /1,000 = 750/1,000 = 0.75