EXTRA PROBLEM 3:
PROBABILITY CALCULUS

$$P(A) = 0.68$$

$$P(B \mid A) = 0.30$$

$$P(B \mid \overline{A}) = 0.02$$

1. Find $P(\overline{A})$, $P(A \cap B)$, $P(\overline{A} \cap B)$

2. Use your results under 1 and complete the following probability table

	A	$\overline{A}$	
B	$P(A \cap B) = ?$	$P(\overline{A} \cap B) = ?$	$P(B) = ?$
$\overline{B}$	$P(A \cap \overline{B}) = ?$	$P(\overline{A} \cap \overline{B}) = ?$	$P(\overline{B}) = ?$
	$P(A) = 0.68$	$P(\overline{A}) = ?$	1

3. Now use the table to find the following:

$$P(\overline{B} \mid A), P(\overline{B} \mid \overline{A}), P(A \mid B),$$

$$P(\overline{A} \mid B), P(A \mid \overline{B}), P(\overline{A} \mid \overline{B}).$$