Ch 3.5 Multiplication Rule with Complements and Conditional Probability Ex1) For At least 1: 1 - P(0) Ex1a) P(having at least 1 girl w/3 kids) = Child 1 Child 2 Child 3 Boy Girl Boy Boy Boy Boy Boy Boy Girl Boy Girl Boy Toril Girl Boy Girl Boy Girl Boy Girl Boy Toril Girl Girl Boy Toril Boy Toril

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Ex1c) P(defect) = 30%, if you pick 5 items what is the P(at least 1 is defective) 1 - P(5 good) $1 - (.70)^5 = 0.83193$

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Ex2) Conditional Probability:
Probability of B occurring given A $P(B|A) = \frac{P(A \text{ and } B)}{P(A)}$ Ex2a) P. 146 Titantic Data

Find the P(a person survived given they were a man) $P(\text{survived}|\text{man}) = \frac{P(\text{man and survived})}{P(\text{man})}$ $\frac{3332}{2223}$ $\frac{1692}{2223}$ 0.196

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Ex1b) 4 multiple choice questions what is the P(at least 1 is correct)

1 - P(all wrong)

 $1-(\frac{3}{4})^4=0.68$

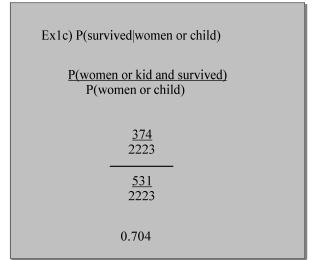
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Try #1. 20 T/F questions, what is the P (you get at least 1 correct)?

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Ex1b) P(man|survived) = $\frac{P(\text{survived and man})}{P(\text{survived})}$ $\frac{332}{2223}$ $\frac{706}{2223}$ 0.470

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•	Ггу	cola	root beer	lemon-
	under 21	40	25	20
	21-40	35	20	30
•	40+	20	30	35

P(a person drinks root beer given they are over 40)

P(under 21 given they drink cola)

Mar 30-2:56 PM