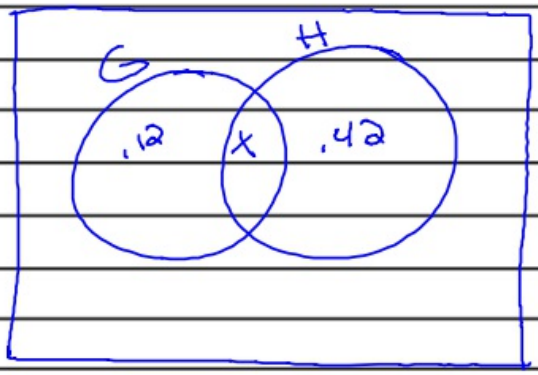
Questions:	Notes:

13. $P(G \cap H') = .12$

$P(G' \cap H) = .42$

$P(G \cap H) = x = P(G) \cdot P(H)$



$P(G) = .12 + x$

$P(H) = .42 + x$

$x = (.12 + x)(.42 + x)$

$x^2 - .46x + .0504 = 0$

$x = .18$ or $x = .28$

Cornell Notes	Topic/Objective: 3.4 Conditional Probability	Name:
		Class/Period: 4
		Date: 1/10/17

Essential Question: What happens when two events are not independent?

Questions:	Notes:
	def) Conditional Probability occurs when the outcome of A depends on the outcome of B
	Ex) A bag has 3 red marbles and 2 blue. Take out one without replacing, then take out a second. P(B)?
	1st marble: $P(B) = \frac{2}{5}$
	2nd marble:
	if 1st was red: $P(B_2) = \frac{2}{4}$
	if 1st was blue: $P(B_2) = \frac{1}{4}$
	* In general, for two events A and B the probability of A occuring given that B has occured can be found using
	$$P(A \mid B) = \frac{P(A \cap B)}{P(B)}$$
	"The probability of A given B"
	Special Case:
	If A and B are independent then $P(A \mid B) = P(A)$
	$P(B \mid A) = P(B)$

Questions:	Notes:

Ex 1 53 PEOPLE $n(U) = 53$

36 DRINK TEA $n(T) = 36$

18 DRINK COFFEE $n(C) = 18$

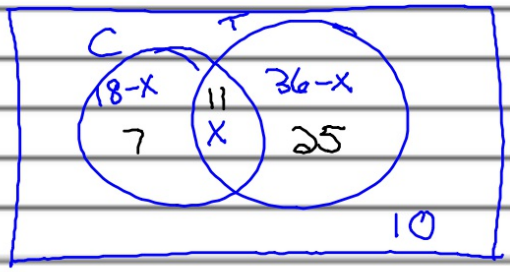
10 DRINK NEITHER $n(T \cup C)' = 10$

a. HOW MANY DRINK BOTH? 11

b. P(T NOT C)? $P(T \cap C') = \frac{25}{53}$

c. IF THEY DRINK TEA, P(C)?

d. IF THEY DRINK COFFEE, P(T)?



HW 3G

p. 86

#1, 2, 6, 9, 10

$18 - X + X + 36 - X + 10 = 53$

$X = 11$

c. $P(C \mid T) = \frac{P(C \cap T)}{P(T)} = \frac{\frac{11}{53}}{\frac{36}{53}}$

$= \frac{11}{53} \cdot \frac{53}{36} = \frac{11}{36}$