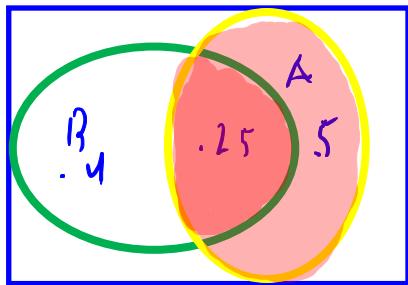


47. $A = \text{Virus}, P(A) = .5$
 $B = \text{Muster}, P(B) = .4$

$$P(A \cap B) = .25$$

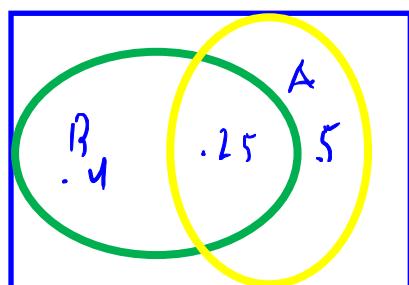
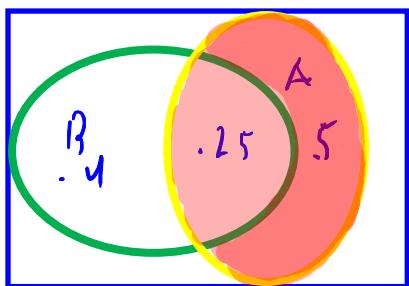
a) $P(B|A)$



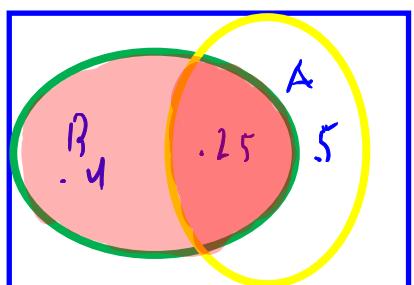
$$\frac{.25}{.5} = 0.5$$

b) $P(B'|A) = 0.5$

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

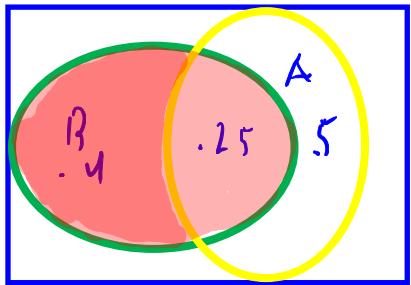


c) $P(A|B)$



$$\frac{.25}{.4} = 0.625$$

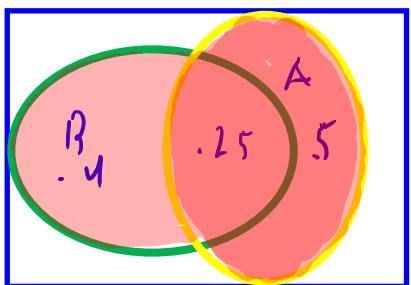
$$d) P(A' | B)$$



$$P(A' \cap B) =$$

$$= \frac{.4 - .25}{.4} = \frac{.15}{.4} = 0,375$$

$$e) P(A | A \cup B)$$

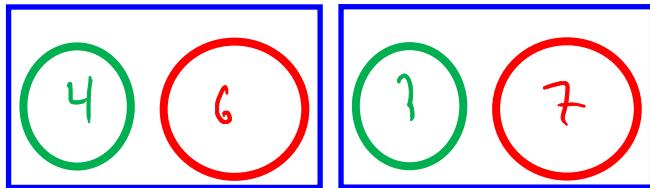


$$(.5 + .4) - .25 = .65$$

$$\frac{P(A \cap (A \cup B))}{P(A \cup B)} = \frac{0,5}{0,65} = \underline{\underline{0,769}}$$

Han är felha: $A \cap (A \cup B)$

51.



a) $P(R_1 \cap R_2) = P(R_1) \cdot P(R_2 | R_1)$

$$\frac{6}{10} \cdot \frac{4}{11} = \frac{24}{55} = 0,436$$

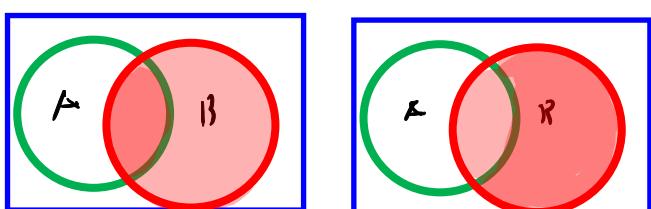
b) $\Omega = \{(G, G), (R, R)\}$

$$P(G_1 \cap G_1) + P(R_1 \cap R_2) = P(R_1 \cap R_2) + P(G_1 \cap G_2)$$

$$\frac{24}{55} + \frac{4}{10} \cdot \frac{4}{11} = \frac{52}{55} = \underline{\underline{0,912}}$$

55. Events A and B $P(B) > 0$

$$P(A|B) + P(A'|B) = 1$$



Siden B okänd är detta oberoende
eftersom vi då har att $P(A') + P(A) = 1$ bara
är det

2.5 66.

$$P(A \cap B) = 0.4 \cdot 0.15 = 0.2 \neq 0.25$$

70

A	B	AB	0
.42	.1	.04	.44

$$P(0 \cap 0) = .44^2 = \frac{196}{625} = \underline{\underline{0.384}}$$

$$P(A \cap A) \cup (B \cap B) \cup (AB \cap AB) \cup (0 \cup 0)$$

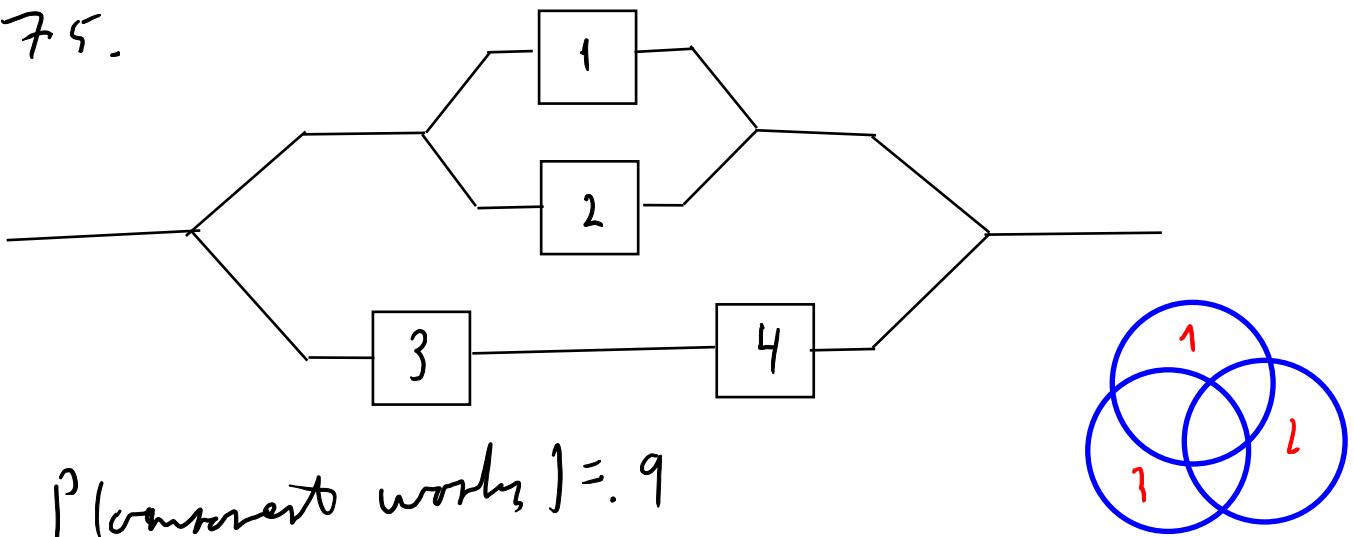
$$.42^2 + .1^2 + .04^2 + .44^2 = \underline{\underline{0.384}}$$

73

$$1 - 0.95^5 = \underline{\underline{.226}}$$

$$P(A \cup B \cup C \cup D \cup E) \quad ?$$

75.



$$P(\text{component works}) = .9$$

$$P(\text{system works}) = P(1 \vee 2 \vee (3 \cap 4))$$

$$= .9 + .9 + (0.9 \cdot 0.9)$$

$$- (1 \cap 2 + 2 \cap (3 \cap 4) + 1 \cap (3 \cap 4))$$

$$+ 1 \cap 2 \cap (3 \cap 4)$$

$$\Rightarrow .9 + .9 + (.9 + .9) - (.9 \cdot .9 + .9 \cdot (.9 \cdot .9) + .9 \cdot (.9 \cdot .9))$$

77. hvis A eller B er givet bestemmer det hva den andre
har vært før i tilf. \neq derfor er ikke "A og B" en uavhengig

