

8147 Conditional probability

① a)

	F	G	S	T
F	17	9	14	40
M	12	13	7	32
T	29	22	21	72

b) $\frac{40}{72}$

c) $\frac{13}{32}$

② a)

	B	K	I	T
B	14	18	20	47
G	12	7	34	53
T	26	20	54	100

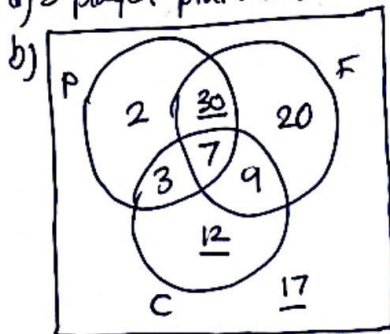
b) $\frac{13}{47}$

③ $\frac{3}{22}$

④ $\frac{4}{17}$

⑤ $\frac{28}{92}$

⑥ a) 3 played piano & clarinet but not the flute



c) $\frac{7}{49}$

⑦ a) i) $\frac{13}{40}$

ii) $\frac{7}{40}$

b) i) $\frac{18}{40}$

ii) $\frac{9}{40}$

iii) $\frac{1}{2}$

⑧ a) produced in the UK & made more than 40 million

b) $\frac{5}{20}$

c) $\frac{3}{8}$

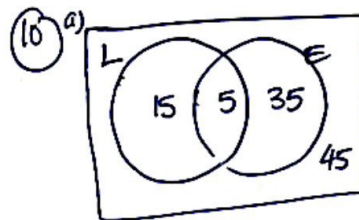
d) $P(B) \neq P(B|A) \therefore$ dependent

⑨ a) i) 0.7

ii) 0.3

iii) 0.6

b) 0.4



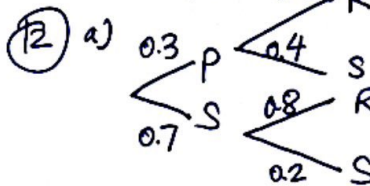
b) i) $\frac{60}{100}$

ii) $\frac{35}{100}$

c) $\frac{5}{20}$

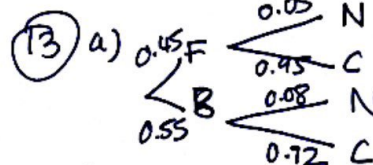
⑪ a) $\frac{44}{50}$

b) $\frac{21}{44}$



b) 0.74

c) $\frac{P(R|P)}{P(R)} = 0.243$



b) 0.0665

c) $\frac{P(FN)}{P(N)} = 0.338$