

# 8148 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	13	20	47
G	12	7	34	53
T	26	20	54	100

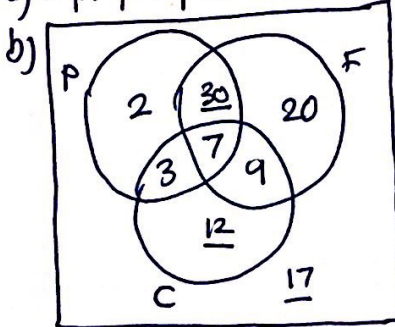
b)  $\frac{13}{47}$

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

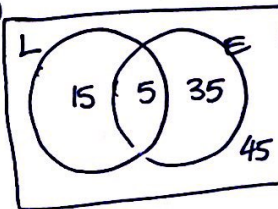
a) i) 0.7

ii) 0.3

iii) 0.6

b) 0.4

⑩ a)



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

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

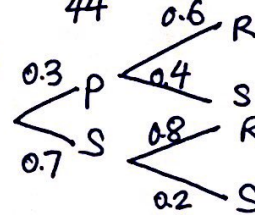
c)  $\frac{5}{20}$

⑪

a)  $\frac{44}{50}$

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

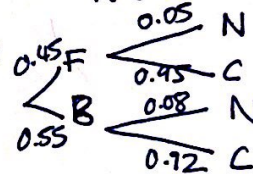
⑫ a)



b) 0.74

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

⑬ a)



b) 0.0665

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