Want $P(study \mid pass) = \frac{P(pass|study)P(study)}{P(pass)}$

Have $P(pass \mid study) = \frac{P(pass,\ study)}{P(study)} = 0.7426$ and $P(study) = 0.6$

Calculate $P(pass)$. The same *-notation as in the example document has been used.

$P(pass) = \sum P(pass \mid \cancel{study^*},\ prep^*,\ fair^*,\ smart^*)P(prep^* \mid study^*,\ \cancel{fair^*},\ smart^*)P(study^*)P(fair^*)P(smart^*)$

$$\sum \underbrace{P(pass \mid prep^*,\ fair^*,\ smart^*)}_{A} \underbrace{P(prep^* \mid study^*,\ smart^*)}_{B} \underbrace{P(study^*)}_{C} \underbrace{P(fair^*)}_{D} \underbrace{P(smart^*)}_{E}$$

(t) pass	study	prep	fair	smart	A	B	C	D	E	TOT
	F	F	F	F	0.1	0.9	0.4	0.1	0.2	7.2e-4
	F	F	F	T	0.1	0.5	0.4	0.1	0.8	1.6e-3
	F	F	T	F	0.2	0.9	0.4	0.9	0.2	0.01296
	F	F	T	T	0.7	0.5	0.4	0.9	0.8	0.1008
	F	T	F	F	0.1	0.1	0.4	0.1	0.2	8e-5
	F	T	F	T	0.1	0.5	0.4	0.1	0.8	1.6e-3
	F	T	T	F	0.7	0.1	0.4	0.9	0.2	5.04e-3
	F	T	T	T	0.9	0.5	0.4	0.9	0.8	0.1296
	T	F	F	F	0.1	0.3	0.6	0.1	0.2	3.6e-4
	T	F	F	T	0.1	0.1	0.6	0.1	0.8	4.8e-4
	T	F	T	F	0.2	0.3	0.6	0.9	0.2	6.48e-3
	T	F	T	T	0.7	0.1	0.6	0.9	0.8	0.03024
	T	T	F	F	0.1	0.7	0.6	0.1	0.2	8.4e-4
	T	T	F	T	0.1	0.9	0.6	0.1	0.8	4.32e-3
	T	T	T	F	0.7	0.7	0.6	0.9	0.2	0.05292
	T	T	T	T	0.9	0.9	0.6	0.9	0.8	0.34992
										= 0.69796

$P(pass) = 0.69796$

$P(study \mid pass) = \frac{P(pass|study)P(study)}{P(pass)} = \frac{0.7426 \times 0.6}{0.69796} = 0.6384$