

Problem 24

C	R	S	L	
T	T	T	T	$(0.6)(0.7)(0.05)(0.95) = 0.01995 \checkmark$
T	F	T	T	$(0.6)(0.3)(0.4)(0.9) = 0.0648 \checkmark$
T	T	F	T	$(0.6)(0.7)(0.95)(0.9) = 0.3591 \checkmark$
T	F	F	T	$(0.6)(0.3)(0.4)(0.1) = 0.0108 \checkmark$
F	T	T	T	$(0.4)(0.1)(0.1)(0.95) = 0.0038 \checkmark$
F	T	F	T	$(0.4)(0.1)(0.9)(0.9) = 0.0324 \checkmark$
F	F	T	T	$(0.4)(0.9)(0.8)(0.9) = 0.2592 \checkmark$
F	F	F	T	$(0.4)(0.9)(0.2)(0.1) = 0.0072 \checkmark$

$$a) P(L) = 0.01995 + 0.0648 + 0.3591 + 0.0108 + 0.0038 + 0.0324 + 0.2592 + 0.0072 \approx 0.757$$

$$b) P(R|L) = \frac{P(RL)}{P(L)} = \frac{0.01995 + 0.0038 + 0.0324 + 0.3591}{0.757} = 0.5485$$

C	R	S	
T	T	T	$(0.6)(0.7)(0.05) = 0.021$
F	T	T	$(0.4)(0.1)(0.1) = 0.004$
F	F	T	$(0.4)(0.9)(0.8) = 0.288$
T	F	T	$(0.6)(0.3)(0.4) = 0.072$

$$c) P(R|S) = \frac{P(RS)}{P(S)} = \frac{0.021 + 0.004}{0.021 + 0.004 + 0.288 + 0.072} = 0.0649$$