MAU11S02 Group A1 Quiz 08 9am 27/3/19 ANSWERS

Rules and procedures.
1. Answers must be handed up at the end of the tutorial, no other time. **2.** Attempt 3 questions. Only *your first three answers* will be marked. **3.** Each question carries 10 marks, so the maximum quiz mark is 30. **4.** Marked quizzes will be returned, and answers published, the following week. **5.** If a particular method of solution is stipulated, you get no marks if you don't use it. **6.** The (9) quizzes will contribute 20% to your overall mark. **7.** You are allowed to collaborate and compare answers during the tutorial. **8.** ***Show all work.*** No marks will be given for answers which do not show the calculations.

Answer 1.

	A	B
prob(X)	0.6667	0.3333
prob$(D\|X)$	0.1500	0.1000
Prob defective 0.1333		
prob$(X\|D)$	0.7500	0.2500

Answer 2.

	A	B	C
prob(X)	0.4000	0.2000	0.4000
prob$(D\|X)$	0.0500	0.1000	0.1000
Prob defective 0.0800			
prob$(X\|D)$	0.2500	0.2500	0.5000

Answer 3.

$$\frac{5}{14} \times \frac{9}{21} + \frac{9}{14} \times \frac{21}{30}$$

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Prob both red:   0.1071
Prob both green: 0.4500
Prob both equal: 0.5571
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Answer 4. (i) $E : 1/2$, $F : 3/8$, $E \cap F : 1/4$. (ii) Prob$(E \cap F) = 1/4$, Prob$(E)\times$Prob$(F) = 3/16$, not independent.

Answer 5.
$E_5 : (1,1,3), (1,2,2), (1,3,1), (2,1,2), (2,2,1), (3,1,1)$
Probability 6/27 or 2/9.

(Corrected) $E_6 : (1,2,3), (1,3,2), (2,1,3), (2,2,2), (2,3,1), (3,1,2), (3,2,1)$ Probability 7/27.