## igose tk alevel tk ig PROBABILITY WORKSHEET

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A lecturer wishes to give a message to a student. The probabilities that she uses e-mail, letter or personal contact are 0.4, 0.1 and 0.5 respectively. She uses only one method. The probabilities of the student receiving the message if the lecturer uses e-mail, letter or personal contact are 0.6, 0.8 and 1 kilgese tk ajevel tkilgese tk alevel tkilgese tk alevel tkilgese tk respectively.

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(i) Find the probability that the student receives the message. locse.tk alevelate locse.tk alevel.tk locse.tk

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(ii) Given that the student receives the message, find the conditional probability that he received it alevelute igese the alevel (kilgese tig) via e-mail. elitk jacse tk alevelitk jacse tk alevelitk jacse tk

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Events A and B are such that P(A) = 0.3, P(B) = 0.8 and P(A and B) = 0.4. State, giving a reason in each case, whether events A and B are at the reason the alevel the recent the reason the

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(i) independent,

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(ii) mutually exclusive. se tk alevel tk igcse tk alevel tk igcse tk

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Ivan throws three fair dice. se tk alevel tk igcse tk alevel tk igcse tk alevel tk igcse tk

(i) List all the possible scores on the three dice which give a total score of 5, and hence show that the probability of Ivan obtaining a total score of 5 is  $\frac{1}{36}$ .

(ii) Find the probability of Ivan obtaining a total score of 7.

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A box contains 10 pens of which 3 are new. A random sample of two pens is taken. itk igcse tk alevel tk igcse tk aleval tk igcse tk alevel tk igcse tk

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Single cards, chosen at random, are given away with bars of chocolate. Each card shows one of 20 different football players. Richard needs just one picture to complete his coll buys 5 bars of chocolate and looks at all the pictures. Find the probability that	tk igcse.tk
igcse tk alevel tk igcse tk alevel tk igcse tk alevel tk igcse tk alevel.  Tags (i) Richard does not complete his collection.	
1905(ii) he has the required picture exactly once, go sentk alevel. tk toose the alevel	
(iii) he completes his collection with the third picture he looks at.	tkiges21tk
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In a certain country 54% of the population is male. It is known that 5% of the males are and 2% of the females are colour-blind. A person is chosen at random and found to be a By drawing a tree diagram, or otherwise, find the probability that this person is male.	colour-blind colour-blind. [CS [6] K
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When Don plays tennis, 65% of his first serves go into the correct area of the court. If the goes into the correct area, his chance of winning the point is 90%. If his first serve does not correct area, Don is allowed a second serve, and of these, 80% go into the correct area. If serve goes into the correct area, his chance of winning the point is 60%. If neither serve go correct area, Don loses the point.	go into the the second best into the
gcse(i) Draw a tree diagram to represent this information. alevel.tk igcse.tk alevel.	tk igcse.tk
igcse tk alevel tk igcse tk alevel the probability that Don loses the point.	tk igcsa tk tk igcse tk
(iii) Find the conditional probability that Don's first serve went into the correct area, gi loses the point.	ven that he tk tk Ige (2) tk
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When Andrea needs a taxi, she rings one of three taxi companies, A, B or C, 50% of her taxi company A, 30% to B and 20% to C. A taxi from company A arrives late 4% of the from company B arrives late 6% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time and a taxi from company C arrives late 17% of the time a	of the time.
igcse (i) Find the probability that, when Andrea rings for a taxi, it arrives late at the alevel igcse the alevel the igcse the alevel.	tk lacse tk
GCS (ii) Given that Andrea's taxi arrives late, find the conditional probability that she rang co	ompany B.
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