

ECEn 370

Quiz 3

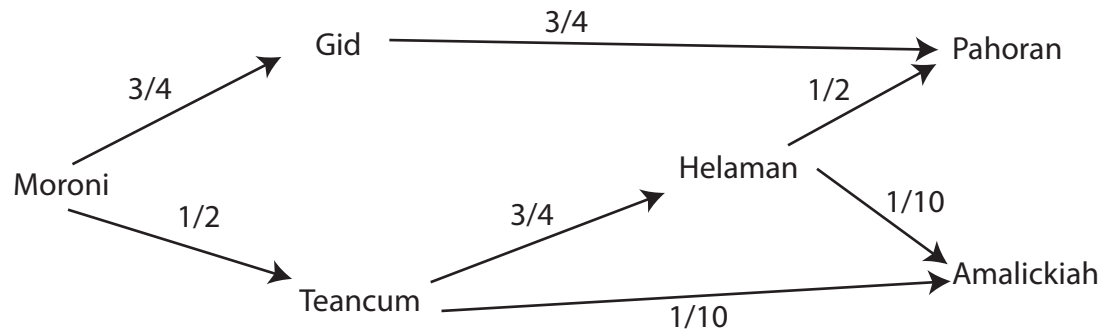
Friday, January 22, 2010.

1. Three students invite six people to an event tonight. The probability that any one of the six people will show up is $\frac{1}{2}$, independent of the others.

a) What is the probability that not all three students will have a date tonight, i.e. less than three of the six people show up.

b) What is the probability that more than three people show up?

2. Moroni is sending a message to Pahoran. He makes two copies and sends one to Gid and one to Teancum. They then pass the message on as follows in the figure until it reaches Pahoran. The probabilities of the message reaching the next person are also in the figure. Amalickiah's spies can copy the message with the probabilities indicated in the figure from Teancum and Helaman. The probabilities of success for each leg of the journey are independent of the others.



a) What is the probability that Pahoran receives the message?

b) What is the probability that Amalickiah receives the message?

c) What is the probability that Amlickiah receives the message and Pahoran does not?