

PLEASE USE REFERNECES

Most credit cards require a 4 digit PIN for customer access. Some people use birthdates or sequential numbers. Why is this risky and what is the role of probability here? **200 words**

Pascale's Triangle was actually evident in China in the early 14th Century. Looking at the p115 in the text, compare Pascale's Triangle and the binomial expansions. What similarities do you see? **200 words**

Watch the Khan Academy video, [Probability Explained](#), and read the textbook assignments for this week. Discuss your understanding of theoretical and empirical probability. When would you think that theoretical and empirical probability would be the same? **200 words**

Video LINK: <https://www.youtube.com/watch?v=uzkc-qNVok>

A pair of dice is rolled and the numbers showing on the top face are added. The least possible outcome would be a pair of ones (total 2) and the greatest possible outcome would be a pair of sixes (total 12). Your lucky number is 5. Using probability, state if 5 is a good choice for a lucky number in this case. **150 words**