

# Do You Feel Lucky?

You have a math quiz for which you are completely unprepared. The quiz has five questions. The bad news is that you have no idea how to do any of them. The good news is each question is true or false. You guess on each question.

1. Determine the number of different ways that you could get every question correct (or wrong, it's the same answer!)
2. Find the number of ways that you get 1 question wrong. What other number of incorrect answers has the same number of possible outcomes?
3. How many different ways can you get 3 questions correct?
4. Refer back to Pascal's triangle. Can you find the numbers from the first three questions in the triangle?
5. Use Pascal's triangle to help you determine the total number outcomes for the quiz.

6. Complete the table below:

Number of correct answers	0	1	2	3	4	5
Number of ways to get result						
Probability of result						

7. Your friend thinks that you since you have a 50-50 chance of getting each question wrong, you are *more* likely to fail, since the lowest passing score is 60%. What is the probability that you will *not* fail the quiz? (Hint: add the probabilities for all passing scores.) Is your friend correct?
8. A week later, your teacher gives you a new true-false quiz with 10 questions. Again, you will be guessing on each problem. Use Pascal's triangle to help you fill in the table below.

Number of correct answers	0	1	2	3	4	5	6	7	8	9	10
Number of ways to get result											
Probability of result											

9. How does increasing the questions from five to ten affect your probability of earning a passing grade? Explain.