

# Foundations of Math 12 LG 11

## Probability



### INTRODUCTION:

All decisions are made based on the chances of receiving a successful outcome. This is the basis of probability and can be applied in many aspects of your regular life. This guide will introduce you to the different concepts around probability and how to calculate the chances of observing a positive or negative result.



### LEARNING GUIDE EXPECTATIONS:

On the completion of this learning guide you will be able to:

- 1) determine the probability or odds of an event occurring.
- 2) determine the probability using permutations and combinations.
- 3) determine the probability of mutually exclusive events.
- 4) determine probability of conditional probabilities.



### EVALUATION:

Complete the LG 11 quiz.



### RESOURCES NEEDED:



Foundations of Mathematics 12 Text.

### LEARNING ACTIVITIES:



**Expectation #1: Determine the probability or odds of an event occurring.**



1. [Watch and take notes on instructional video on Probability.](#)



2. In the Foundations of Mathematics 12 text, in Section 5.1 read “In Summary” on page 303.
3. In Section 5.2, work through “Investigate the Math” on page 304.
4. Work through Examples 1-5 on pages 305-309.
5. Read “In Summary” on page 309.
6. Complete #1, 2, 3, 4, 6, 7, 9, 10, 12, 13, 15, and 16 on pages 310-312.



**Expectation #2: Solve problems involving the probability using permutations and combinations.**



1. [Watch and take notes on instructional video on Probability Using Combinatorics.](#)



2. In the Foundations of Mathematics 12 text, in Section 5.3 work through Examples 1-4 on pages 314-320.
3. Read “In Summary” on page 321.
4. Complete #1, 3, 4, 5, 6, 7, 8, 10, 11, 13, 14, and 19 on pages 321-323.



**Expectation #3: Determine the probability of mutually exclusive events.**



1. [Watch and take notes on instructional video on Probability of Mutually Exclusive Events.](#)



2. In the Foundations of Mathematics 12 text, in Section 5.4 work through Examples 1-5 on pages 329-336.
3. Read “In Summary” on page 337.
4. Complete #1, 3, 4, 5, 7, 8, 9, 12, 13, 15, 16, and 19 on pages 338-342.



**Expectation #4: Determine probability of conditional probabilities.**



1. [Watch and take notes on instructional video on Conditional Probabilities \(Bayes Law\).](#)



2. In the Foundations of Mathematics 12 text, in Section 5.5 work through Examples 1-4 on pages 344-349.
3. Read “In Summary” on page 350.
4. Complete #1, 2, 4, 5, 6, 9, 10, 13, 15, 18, and 19 on pages 350-353.
5. In Section 5.6, work through Examples 1-2 on pages 355-359.
6. Read “In Summary” on page 359.
7. Complete #1, 3, 4, 5, 6, 7, 8, 9, 12, 15, and 17 on pages 360-362.

## REVIEW

Now that you have completed some practice questions, you could review by doing any of the following:

- Chapter Self-Test on page 364.
- Practicing on pages 367-368.
- LG 9-10 practice quizzes located [here](#).

Once you are ready, email your teacher for the LG 11 quiz.