



# Standard #: MAFS.912.S-CP.1.3

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Understand the conditional probability of A given B as  $P(A \text{ and } B)/P(B)$ , and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. ★

<b>Grade:</b> 912	
<b>Cluster:</b> <a href="#">Understand independence and conditional probability and use them to interpret data. (Algebra 2 - Additional Cluster)</a> -	<b>Date Adopted or Revised:</b> 02/14
Clusters should not be sorted from Major to Supporting and then taught in that order. To do so would strip the coherence of the mathematical ideas and miss the opportunity to enhance the major work of the grade with the supporting clusters.	
<b>Content Complexity Rating:</b> <a href="#">Level 2: Basic Application of Skills &amp; Concepts</a> - <a href="#">More Information</a>	<b>Date of Last Rating:</b> 02/14
<b>Status:</b> State Board Approved	

## Related Courses

Course Number	Course Title
<a href="#">1200330:</a>	Algebra 2 (Specifically in versions: 2014 - 2015, 2015 and beyond (current))
<a href="#">1200340:</a>	Algebra 2 Honors (Specifically in versions: 2014 - 2015, 2015 and beyond (current))
<a href="#">1210300:</a>	Probability & Statistics with Applications Honors (Specifically in versions: 2014 - 2015, 2015 and beyond (current))
<a href="#">1200335:</a>	Algebra 2 for Credit Recovery (Specifically in versions: 2014 - 2015, 2015 - 2019 (course terminated))

## Related Access Points

Access Point

Access Points Number	Access Points Title
<a href="#">MAFS.912.S-CP.1.AP.3a:</a>	Using a two-way table, find the conditional probability of A given B.
<a href="#">MAFS.912.S-CP.1.AP.3b:</a>	Identify when two events are independent. $P(A \text{ and } B) \div P(A) = P(B)$

## Related Resources

Problem-Solving Task

Name	Description
<a href="#">Cards and Independence:</a>	This problem solving task lets students explore the concept of independence of events.
<a href="#">Lucky Envelopes:</a>	Students answer questions about the probabilities of independent and dependent events.
<a href="#">Rain and Lightning:</a>	This problem solving task challenges students to determine if two weather events are independent, and use that conclusion to find the probability of having similar weather events under certain conditions.
<a href="#">The Titanic 2:</a>	This task lets students explore the concepts of probability as a fraction of outcomes and using two-way tables of data.

Teaching Idea

Name	Description
<a href="#">Conditional Probability and Probability of Simultaneous Events:</a>	This lesson is designed to further students' practice with probability as well as introduce them to conditional probability and probabilities of simultaneous independent events. The lesson provides links to discussions and activities related to conditional and simultaneous probabilities as well as suggested ways to integrate them into the lesson. Finally, this lesson provides links to follow-up lessons designed for use in succession with this one.

Perspectives Video: Expert

Name	Description
<a href="#">Let's Make a Math Deal:</a>	Should I keep my choice or switch? Learn more about the origins and probability behind the Monty Hall door picking dilemma and how Game Theory and strategy effect the probability.

Lesson Plan

Name	Description
<a href="#">Medical Testing:</a>	<p>This lesson unit is intended to help you assess how well students are able to:</p> <ul style="list-style-type: none"> <li>• make sense of a real life situation and decide what math to apply to the problem</li> <li>• understand and calculate the conditional probability of an event A, given an event B, and interpret the answer in terms of a model</li> <li>• represent events as a subset of a sample space using tables, tree diagrams, and Venn diagrams</li> <li>• interpret the results and communicate their reasoning clearly</li> </ul>
<a href="#">Modeling Conditional Probabilities 1: Lucky Dip:</a>	This lesson unit is intended to help you assess how well students are able to understand conditional probability, represent events as a subset of a sample space using tables and tree diagrams, and communicate their reasoning clearly.
<a href="#">Modeling Conditional Probabilities 2:</a>	This lesson unit is intended to help you assess how well students understand conditional probability, and, in particular, to help you identify and assist students who have the following difficulties representing events as a subset of a sample space using tables and tree diagrams and understanding when conditional probabilities are equal for particular and general situations.

## Assessment

Name	Description
<a href="#">Sample 1 - High School Algebra 2 State Interim Assessment:</a>	This is a State Interim Assessment for 9th-12th grades.
<a href="#">Sample 2 - High School Algebra 2 State Interim Assessment:</a>	This is a State Interim Assessment for 9th-12th grades.
<a href="#">Sample 3 - High School Algebra 2 State Interim Assessment:</a>	This is a State Interim Assessment for 9th-12th grades.

## Student Resources

Name	Description
<a href="#">Cards and Independence:</a>	This problem solving task lets students explore the concept of independence of events.
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<a href="#">Rain and Lightning:</a>	This problem solving task challenges students to determine if two weather events are independent, and use that conclusion to find the probability of having similar weather events under certain conditions.
<a href="#">The Titanic 2:</a>	This task lets students explore the concepts of probability as a fraction of outcomes and using two-way tables of data.

## Parent Resources

Name	Description
<a href="#">Cards and Independence:</a>	This problem solving task lets students explore the concept of independence of events.
<a href="#">Lucky Envelopes:</a>	Students answer questions about the probabilities of independent and dependent events.
<a href="#">Rain and Lightning:</a>	This problem solving task challenges students to determine if two weather events are independent, and use that conclusion to find the probability of having similar weather events under certain conditions.
<a href="#">The Titanic 2:</a>	This task lets students explore the concepts of probability as a fraction of outcomes and using two-way tables of data.