NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ PERIOD: \_\_\_\_\_\_

UNIT 7

Applications of Probability

|  |  |  |
| --- | --- | --- |
| **DOK 1****Learning Target**: K1-I can read a Venn Diagram. K2-I can describe subsets of events as intersections (or), unions (and), or complements of other events (not). Activities:1. Video & Notes on applications of probability sets. (Part 1) [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/GSEhigh1006.html)2. Take the Interactive Quiz [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/grade10GSE/Unit06/Unit-06-01-Quiz/06-01-samplequiz.htm) **Grade: \_\_\_\_\_\_\_\_\_****Learning Target**: K3- I can determine the difference between theoretical, empirical, and subjective probability K6-I can recall basic principles of probability (probability is b/n 0 and 1). **Learning Target**: K8-I can determine the difference between independent and dependent events. Activities:1. Video & Notes on Independent & Dependent Prob. (Part 3) [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/GSEhigh1006.html)2. Take the Interactive Quiz ([Link](http://gwinnett.k12.ga.us/PhoenixHS/math/grade10GSE/Unit06/Unit-06-03-Quiz/06-03-samplequiz.htm)) **Grade: \_\_\_\_\_\_\_\_\_****Learning Target**: K9-I can understand the conditional probability of A given B a P(A and B/given B) Activities:1. Video & Notes on Conditional Probability. (Part 4) [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/GSEhigh1006.html)2. Take the Interactive Quiz ([Link](http://gwinnett.k12.ga.us/PhoenixHS/math/grade10GSE/Unit06/Unit-06-04-Quiz/06-04-samplequiz.htm)) **Grade: \_\_\_\_\_\_\_\_\_****Learning Target**:  **Learning Target**: K9-I can read a two-way frequency table. (CP.4) | **DOK 2****Learning Target**: R1-I can use Venn Diagrams to determine the relationship between sets, events, or probabilities. Activities:1. Video & Notes on basic probability. (Part 2) [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/GSEhigh1006.html)2. Take the Interactive Quiz ([Link](http://gwinnett.k12.ga.us/PhoenixHS/math/grade10GSE/Unit06/Unit-06-02-Quiz/06-02-samplequiz.htm)) **Grade: \_\_\_\_\_\_\_\_\_****Learning Target**: R3-I can compare the probabilities of two events to determine if they are independent. **Learning Target**: R4-I can interpret independence of events in terms of conditional probability. R5-I can recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations.R6- I can find the conditional probability of A|B as the fraction of B’s outcomes that also belong to A, and interpret the answer in context.**Learning Target**: R7-I can apply the Addition Rule, P(A or B) = P(A) + P(B) – P(A and B), and interpret the answers in context.(CP.7)Activities:1. Video & Notes on Mutually Exclusive Events. (Part 5) [(Link)](http://gwinnett.k12.ga.us/PhoenixHS/math/GSEhigh1006.html)2. Take the Interactive Quiz ([Link](http://gwinnett.k12.ga.us/PhoenixHS/math/grade10GSE/Unit06/Unit-06-05-Quiz/06-05-samplequiz.htm)) **Grade: \_\_\_\_\_\_\_\_\_****Learning Target**: R8- I can compare probabilities using a frequency table. (CP.4)Activities:1. Video & Notes on Two-Way Tables. (Part 6)2. Complete practice problems **Grade: \_\_\_\_\_\_\_\_\_** | **DOK 3****Learning Target**: S1-I can use data to calculate probabilities of given events. S2-I can perform operations to calculate the probabilities of compound events in a uniform probability model. Activities:1. Students will conduct a survey of their own creating a Venn diagram and identifying different types of probability outlined in the rubric and expectations. (See project sheet & rubric)**Grade: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**2. Complete Review Guide3. Take Unit Test**Grade: \_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

**Two Way Tables**

1. The table below displays the number of students in different summer classes:

 

1. What percentage of all the students joined the dance class?
2. What percentage of girls joined the painting classes?
3. What percentage of boys joined the painting classes?

2. The data is summarized in a two-way table for the number of boys and girls that regularly
 drink water, lemonade, or soda at lunch.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Boys** | **Girls** | **Total** |
| **Water** | 45 | 32 | 77 |
| **Soda** | 50 | 38 | 88 |
| **Lemonade** | 42 | 32 | 74 |
| **Totals** |  |  |  |

1. What is the percentage of boys that regularly drink water?
2. What is the percentage of girls that regularly drink water?
3. What is the percentage of girls that regularly drink soda?
4. What is the percentage of boys that regularly drink soda?
5. What is the percentage of students that regularly drink water?
6. What is the percentage of students that regularly drink soda?

3. Below you will find an incomplete two way table that shows the number of girls
 and boys that were passing Economics and Science. There are a total of 72 boys
 and 72 girls taking Economics. There are 78 boys and 60 girls taking Science.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Gender | Passing Economics | Failing Economics | Passing Science | Failing Science | Total |
| Boys | 61 |  | 69 |  |  |
| Girls | 67 |  | 53 |  |  |
| Total |  |  |  |  |  |

1. Calculate the percentage of boy’s passing Economics.
2. Calculate the percentage of girl’s passing Science.
3. Calculate the percentage of students passing Science.
4. Calculate the percentage of students passing Economics.
5. Be sure to complete the two way table above.