11.1 IB Math - Unit 6 Probability

Bronx Early College Academy

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30 January - 14 February 2019

BECA / Dr. Huson / 11.1 IB Math - Unit 6 Probability

6.1 Probability definitions, Wednesday 30 January

6.2 Venn diagrams, Thursday 31 January

6.3 Addition rule of probabilities, Monday 4 February

6.4 Probability definitions, Wednesday 6 February

6.5 Probability definitions, Thursday 7 February

6.6 Sample space diagrams, Monday 11 February

6.7 Sample space diagrams, Tuesday 12 February

6.8 Independence, Wednesday 13 February

6.9 Conditional probability, Thursday 14 February

6.10 Conditional probability, Monday 25 February

6.11 Deltamath Conditional probability, Tuesday 26 February

6.12 Probability tree diagrams, Thursday 28 February

6.13 Deltamath Conditional probability, Tuesday 5 March

6.14 Trees without replacement + review, Wednesday 6 March

6.15 Unit test Probability, Thursday 7 March

6.16 Formatting math work, Monday 11 March

GQ: How do we talk about probability?

CCSS: HSS.CP.A.3 Understand conditional probability 6.1 Wednesday 30 January

Do Now: Skills check p. 62 #1-2

Lesson: History of the study of games of chance, sample space, frequency

Homework: Exercises 3A p. 67-68

GQ: How do we notate sample spaces with Venn diagrams?

CCSS: HSS.CP.A.3 Understand conditional probability 6.2 Thursday 31 January

Do Now: Probability handout

Lesson: Sets, complements, union, intersection, empty set

Homework: Exercises 3B p. 71-72

GQ: How do we add the probabilities of multiple events?

CCSS: HSS.CP.A.3 Understand conditional probability 6.3 Monday 4 February

Do Now: Draw a Venn diagram of these 110 students:

- 25 students took physics
- 45 students took biology
- 48 students took mathematics
- 10 students took physics and mathematics
- 8 students took biology and mathematics
- 6 students took biology and physics
- 5 students took all three subjects

How many took biology, but neither physics nor mathematics?
How many students did not take any of the three subjects?

Lesson: The addition rule, probability
Homework: Exercises 3C p. 74-75 Unit test Thursday

GQ: How do we calculate probability?

CCSS: HSS.CP.A.3 Understand conditional probability 6.4 Wednesday 6 February

Do Now: Pretest review packet

Lesson: Review for unit test

Homework: study for test tomorrow. Arrive at 8:00 sharp!

GQ: How do we calculate probability?

CCSS: HSS.CP.A.3 Understand conditional probability 6.5 Thursday 7 February

Assessment: Probability unit test

Homework: Handout practice problems

GQ: How do we add the probabilities of multiple events?

CCSS: HSS.CP.A.3 Understand conditional probability 6.6 Monday 11 February

Do Now: A six-sided, fair die is rolled 100 times, with x representing each value rolled. Draw a Venn diagram to represent the 100 events.

- $\{x$ is an even number $\}$ was rolled 57 times
- $\{x : x < 4\}$ occurred 44 times
- $\{x : x = 2\}$ occurred 15 times

How many times was $x = 5$ rolled?

Test question review
Lesson: Mutually exclusive sets, sample space diagrams

Homework: Exercises 3D p. 76-77, 3E #1-2 p. 79

GQ: How do we add the probabilities of multiple events?

CCSS: HSS.CP.A.3 Understand conditional probability 6.7 Tuesday 12 February

Deltamath probability practice

Homework: Complete Deltamath exercises

GQ: How do we multiply the probabilities of multiple events?

CCSS: HSS.CP.A.3 Understand conditional probability 6.8 Wednesday 13 February

Do Now: 3E p. 80

- medium: exercise #3
- spicy: exercise #5

Test question review
Lesson: Independence and multiplying probabilities

Homework: Exercises 3F p. 82-84

GQ: How do we calculate probability given another condition?

CCSS: HSS.CP.A.3 Understand conditional probability 6.9 Thursday 14 February

Do Now: Read the Monty Hall problem, p. 88. Be prepared to discuss

Test question review
Lesson: Conditional probability

Homework: Exercises 3G p. 86-88

GQ: How do we calculate probability given another condition?

CCSS: HSS.CP.A.3 Understand conditional probability 6.10 Monday 25 February

Do Now: Read the Monty Hall problem, p. 84. Be prepared to discuss

Lesson: Conditional probability

Homework: Exercises 3G p. 86-88

GQ: How do we calculate probability given another condition?

CCSS: HSS.CP.A.3 Understand conditional probability 6.11 Tuesday 26 February

Do Now: Deltamath probability practice

- Differentiated skills practice
- Probability applications review

Assessment: Homework review
Lesson: Conditional probability problem situations

Homework: Complete Deltamath exercises

GQ: How do we diagram a situation as a tree?

CCSS: HSS.CP.A.3 Understand conditional probability 6.12 Thursday 28 February

Do Now: Re the Monty Hall problem, p. 84

1. Given you pick door #1, find the probabilities that the prize is behind each door.
2. Again, assuming you picked door #1, for each case for where the prize is (i.e. 3 cases), which door might Monty reveal to you, and with what probability?
3. For homework 3G #12 p. 88, diagram the situation as a 2-by-2 matrix

Homework review
Lesson: Probability tree diagrams, with and without replacement

Homework: Exercises 3H p. 90 (optional 3I p. 93)

GQ: How do we tell if events are independent?

CCSS: HSS.CP.A.3 Understand conditional probability 6.13 Tuesday 5 March

Do Now: Deltamath probability practice

- Differentiated skills practice
- Probability applications review
- Logarithm review

Assessment: Homework review
Lesson: Independence related to conditional probabilities
Parent conferences this Thursday evening, Friday afternoon

Homework: Complete Deltamath exercises

GQ: How do we diagram a situation as a tree?

CCSS: HSS.CP.A.3 Understand conditional probability 6.14 Wednesday 6 March

Do Now: Tree diagram handout

Homework review
Lesson: Probability tree diagrams, with and without replacement

Homework: Study for test (Exercises 3I p. 93)

GQ: How do we diagram a situation as a tree?

CCSS: HSS.CP.A.3 Understand conditional probability 6.15 Thursday 7 March

Assessment Probability Unit Test

Homework: Self-review

GQ: How do we communicate mathematics using formal notation?

CCSS: MP.1 Make logical arguments 6.16 Monday 11 March

Probability symbolic manipulation worksheet

- Write answers in designated space, labeling problem number
- Write left to right, top down. Use *white space*
- Copy relevant formula sheet entries (optional)
- Substitute given values, simplify, then conclude
- Add diagrams and notes (generally to the right)

Test revision: rewrite your exam using proper notation
Homework: Review exercises #1-5 (with calculator) p. 95-96