

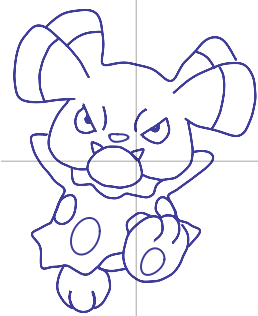
MATH:1260 Pokémath

The Mathematics of Pokémon Go[®]

Week 6 Monday, Spring 24

Popular curve:

Snubbull-like curve



Plan for Today

- Start Module 2: Gotta Catch 'Em All!®
 - Probability in Pokemon (It's everywhere)

Class Reminders

- Project 1, Stage 3 is due Wednesday at Midnight
- GW5 Thursday in discussion.

Probability

What does random mean???

Definitions

A **random experiment** has outcomes that we can not predict.

Examples:

Flip a coin.

Throw a Pokéball at a Pokémon.

Appraise a Pokémon's IVs.

A single repetition of a random experiment is called a **trial**.

Examples:

One coin flip.

One throw of a Pokéball.

The possible results of a trial are called **outcomes**.

Examples:

Heads

Escape

The **SET** of all possible outcomes is called the **sample space**.

Examples:

{Heads, Tails}

{Escape, Catch, Critical Catch, Run Away}

Snubbull

Let's say I caught a Snubbull. Gender assignment in Pokemon is random (mostly), so checking the Snubbull's gender is a random experiment. What is the sample space of this experiment?



More Snubbulls

Some snubbulls are shiny.



So I could classify any snubbull as

{shiny, nonshiny}

What is an **experiment** associated with shiny and nonshiny snubbulls?

What is a **trial** of this experiment?

More complicated experiments

s = shiny, n = nonshiny

Suppose I catch three snubbull today and check which are shiny. (New Experiment! 3 snubbulls at once!)

The event that the first is nonshiny, the second is shiny, and the third is nonshiny could be written “nsn”.

Using this notation, what is the sample space?

Events

An **event** is a **subset** of the sample space, that contains all **outcomes** from inside the sample space that meet some **requirement**.

Examples:

The event that the first snubbull is shiny (the answer is a subset, so we will need set notation)

$F =$

The event that I catch exactly two shiny snubbull

$T =$

The event that I catch at least one shiny snubbull

$A =$

(TopHat) Write in set notation the event that I catch at least two nonshiny snubbull.

Ask Away

What questions do you have about catching Pokémon®?