

INTRODUCTION TO

# *Random Sampling, Platonic*

Math 5 Crew

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## *First Platonic Sampling Model*

You have a population of  $N$  objects. You select one at random, meaning that all  $N$  of your objects are **EQUALLY LIKELY** to be chosen. You record some data about your object. Repeat  $M$  times.

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Margin of error is computed using this Platonic Model.

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Name: Sampling with replacement.

## *Second Platonic Sampling Model.*

You have a population of  $N$  objects. You select a group of  $M$  objects randomly from your population, meaning that every possible collection of  $M$  objects is **EQUALLY LIKELY** to be chosen. You record some data about each of these  $M$  objects.

## *Second Platonic Sampling Model.*

You have a population of  $N$  objects. You select a group of  $M$  objects randomly from your population, meaning that every possible collection of  $M$  objects is **EQUALLY LIKELY** to be chosen. You record some data about each of these  $M$  objects.

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In polling people, next to the reality of the equally likely assumption, this distinction is completely negligible.

## *Margin of Error*

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Reality?