

Probability and Distributions in GeoGebra

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Vidhya Iyer

IIT Bombay

18 October 2018



Learning Objectives



Learning Objectives

- Learn how to use Probability Calculator in GeoGebra



Learning Objectives

- Learn how to use Probability Calculator in GeoGebra
- Look at different distributions and parameters



System Requirement



System Requirement

- **Ubuntu Linux OS v 16.04**



System Requirement

- **Ubuntu Linux OS v 16.04**
- **GeoGebra 5.0.481.0-d**



Pre-requisites



Pre-requisites

- **GeoGebra interface**



Pre-requisites

- **GeoGebra interface**
- **Statistics**



Fish Feed



Fish Feed



Fish Feed

A fishery is testing 4 types of feed formulation on its fish, A, B, C and D

- Length (mm)



Fish Feed

A fishery is testing 4 types of feed formulation on its fish, A, B, C and D

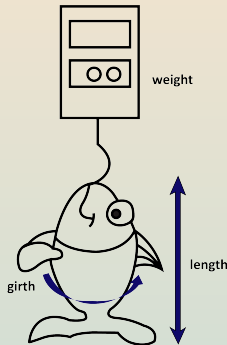
- Length (mm)
- Weight (lbs)



Fish Feed

A fishery is testing 4 types of feed formulation on its fish, A, B, C and D

- Length (mm)
- Weight (lbs)
- Girth (mm)



Fish Feed Data



Fish Feed Data

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Fisheries											
2		Feed A			Feed B			Feed C			Feed D		
3		Length (mm	Weight (lbs	Girth (mm)	Length (mm)	Weight (lb	Girth (mm)	Length (m	Weight (lb	Girth (mm)	Length (m	Weight (lb	Girth (mm)
4	1	690	10.6	470	805	10.9	395	840	18	505	835	17.5	460
5	2	725	18.6	377	815	9.6	350	850	18.3	515	850	19.6	480
6	3	760	11.4	383	825	12	400	860	17.9	465	855	18.7	495
7	4	770	15.7	445	825	13.8	435	870	19.4	503	860	17.9	465
8	5	770	13.1	405	765	13.6	425	880	18.8	456	875	21	525
9	6	790	14.4	440	770	13.7	425	900	23.5	527	895	23.8	531
10	7	720	14.2	410	780	13.9	438	925	24.7	539	910	24.4	541
11	8	720	14.1	435	800	12.9	435	940	20.4	517	930	22.3	554
12	9	750	14.1	422	810	14.2	447	955	25.9	539	950	30	595
13	10	760	15.2	443	820	14.3	410	970	29.8	603	995	31.6	585
..													



Probability



Probability

- Probability of an event $P(A)$, from 0 to 1



Probability

- Probability of an event $P(A)$, from 0 to 1
- Sampling distribution, e.g., normal, t etc



Summary

- **How to use Probability Calculator in GeoGebra**
- **Looked at different distributions and parameters**



Assignment



Assignment

- Perform statistical analyses for weight and girth data
- Is any of the oils absorbed more than the others?

	A	B	C	D	E
1	Oils for frying--Absorption by chips				
2	Chips	Oil A	Oil B	Oil C	Oil D
3	1	66	76	97	54
4	2	74	89	91	63
5	3	70	86	89	59
6	4	79	80	78	72
7	5	58	83	91	59
8	6	73	75	87	62



About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarizes the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to contact@spoken-tutorial.org



Forum for specific questions

- Do you have questions in **THIS Spoken Tutorial?**
- Please visit <http://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- Someone from our team will answer



Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project
- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at

<http://spoken-tutorial.org /NMEICT-Intro>

