

Probability

Example

Prof. Dr. Mostafa Elhosseini

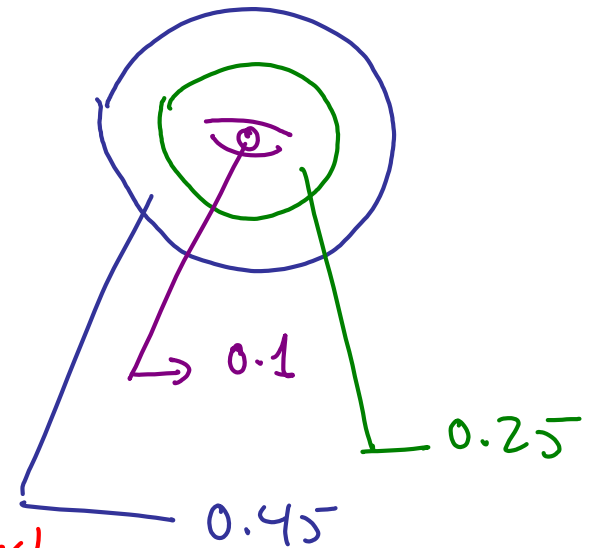
<https://youtube.com/drmelhosseini>

| Example

- A target on a **test firing range** consists of a bull's-eye with two concentric rings around it. A projectile is fired at the target. The probability that it **hits the bull's-eye** is **0.10**, the probability that it **hits the inner ring** is **0.25**, and the probability that it **hits the outer ring** is **0.45**. What is the probability that the projectile hits the target? What is the probability that it misses the target?

mutually exclusive event

adding up!



$$P(\text{hit target}) = P(\text{bull-eye}) + P(\text{inner ring}) + P(\text{outer})$$

$$= 0.1 + 0.25 + 0.45 = \underline{\underline{0.8}}$$

$$P(\text{miss target}) = 1 - P(\text{hit}) = 1 - 0.8 = 0.2$$

| References

- Understanding Boxplots <https://towardsdatascience.com/understanding-boxplots-5e2df7bcbd51>
- What does a box plot tell you?
<https://www.simplypsychology.org/boxplots.html>
- Statistics for Engineers and Scientists, Fourth Edition, William Navidi
Colorado School of Mines
- Khan Academy
<https://www.khanacademy.org/math/cc-sixth-grade-math/cc-6th-data-statistics/cc-6th-box-whisker-plots/v/constructing-a-box-and-whisker-plot>