

Economic Statistics - Midterm 2 Cheat Sheet by lunarorbit via cheatography.com/216484/cs/47302/

Probability basics (definitions & rules)

Definitions

Random phenomenon — outcome uncertain but with a regular distribution over many repetitions.

Probability model — (1) sample space S (all possible outcomes) and (2) probabilities for each outcome.

Event — set of outcomes of interest (e.g., "< 3 on a die").

Disjoint (mutually exclusive) — A and B cannot happen together.

Independent — occurrence of A does not affect probability of B (coin tosses, etc.).

Probability basics (definitions & rules)

Rules

- 1. Bounds $0 \le P(A) \le 1$ | Probabilities can't be negative or >1 | If you ever get >1, check math!
- 2. Certainty P(S)=1 | Something must happen | "Whole sample space = 1"
- 3. Complement $P(A^c)=1-P(A) \mid If$ P(rain)=0.2, $P(no\ rain)=0.8 \mid Useful\ for\ "at least one" problems$

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By **lunarorbit**

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