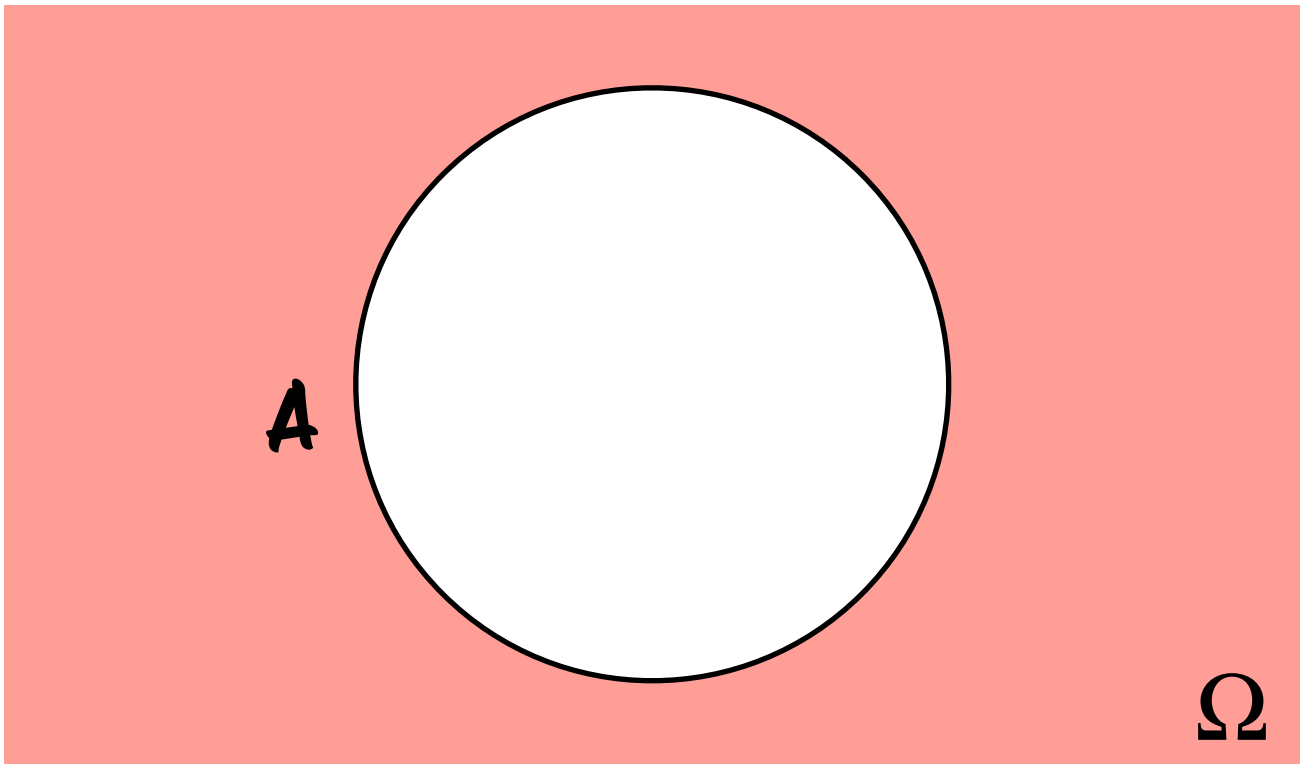
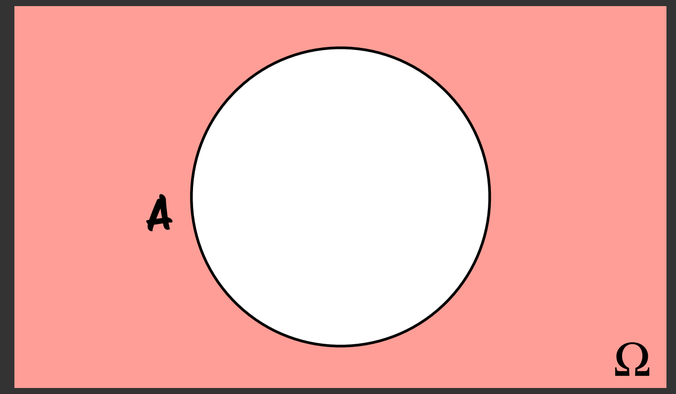
further properties


A
Ω

further properties

- $P(A \cup \overline{A}) = P(A) + P(\overline{A}) = 1 \implies P(\overline{A}) = 1 - P(A)$

  (this is also referred to as the complement rule coming up shortly…)



- $0 \leq P(A) \leq 1$ for any event A

  Directly follows from axiom (1) and (2).
  Also directly evident from set theory:
  $\varnothing \subset A \subset \Omega$ for any event $A \implies P(\varnothing) \leq P(A) \leq P(\Omega) \implies 0 \leq A \leq 1$

probability of an event