

Statistical Methods in Particle Physics

Quiz on chapter 1: Basics

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WS 2017/18**

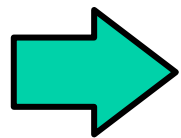
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Probabilities satisfy $P(A \cup B) = P(A) + P(B)$ if A and B are disjoint according to the

1. Kolmogorov axioms
2. Chebyshev axioms
3. Markov axioms
4. Poincare axioms

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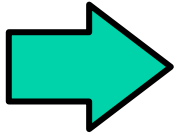


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The mode of a distribution is

1. the value separating the higher half of the distribution from the lower half
2. the expectation value of the distribution
3. the value x at which $f(x)$ takes its maximum value
4. the standard deviation of the distribution

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The variance of a continuous distribution can be calculated as

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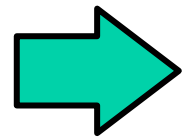
2. $V(x) = \langle x^2 \rangle - \langle x \rangle^2$

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The covariance of two random variables x and y is defined as

1. $\text{cov}[x, y] = E[(x - \langle x \rangle)^2(y + \langle y \rangle)^2]$

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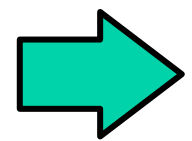
3. $\text{cov}[x, y] = E[(x - \langle x \rangle)(y - \langle y \rangle)]$

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