Re: can it be a distrubution function?

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thanks for the response, let me see if i got it straight, this time.

1. the probability distribution is a function P, matching for each
event x the probability of it.
2. a random variable X is a function from sample space to the reals
(satisfying some condition).
3. the (comulative) distribution is a function matching for each real
value x, the probabilty of X being at the interval (−inf,x], i.e P(−inf
<= X <= x]), when X(S) is the sample space.
4. the (probability) density is a function such that
(integral)[a,b]f(x) = P(a <= X <= b).

yes?

karl wrote:

> tamiry wrote:
>
> > Hi,
> > this week's HW had this distribution function
> >
> > f =
> > 1−(3/4)exp(−x) x >= 0
> > 0 otherwise
> >
> > then I was asked to compute P(0 <= x <= 2). if i understand correctly,
> > i need to compute the integral of f(x) at the given interval.
>
> Why, if f is the distribution function? I guess, you are confusing
> density and distribution function.

so it's just computing the difference of f at the boundary points...

> as a
>
> > preliminary stage i tried to compute the integral of f on the entire

> sample space. i expected it to be 1. what i got was:
>
> (integral)[0,+inf](1−(3/4)exp(−x)) = (x + (3/4)exp(−x)) between 0 and +inf = inf !
>
> this integral does not converge, because of the "x". so, am i doing something wrong or that f cannot be a distribution function ?

As I said, the integral has to be 1 if f is a DENSITY function. Look what conditions a function must fulfill to be a DISTRIBUTION function.

since it's a distribution, it should fulfill f(+inf) = 1, which it does.

Ciao

Karl

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