

Sampling Questions

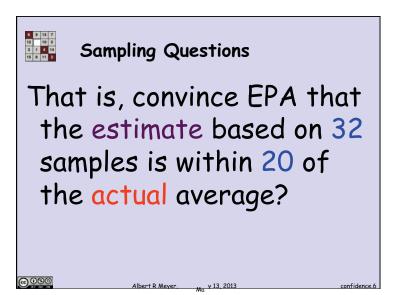
A few of the 32 counts

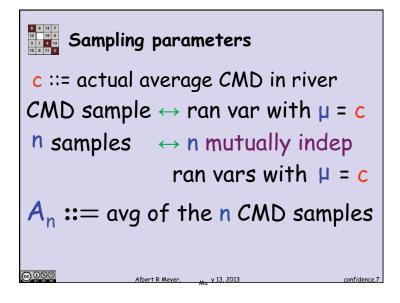
turn out to be > 200 but

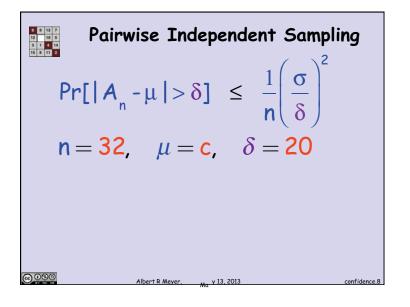
their average is 180.

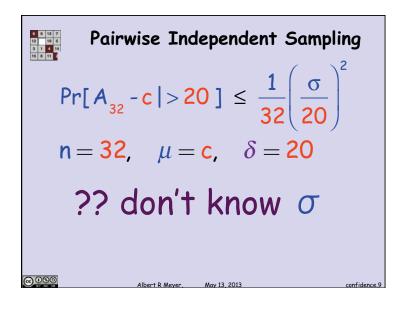
Convince the EPA that avg

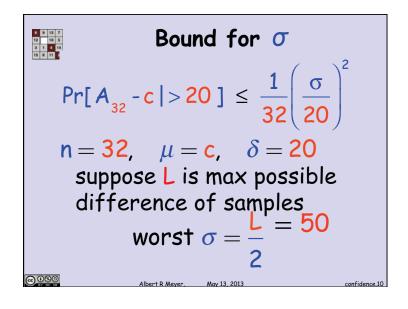
in whole river is < 200?

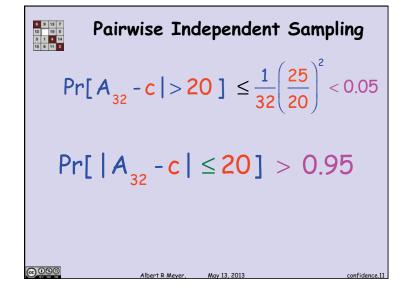


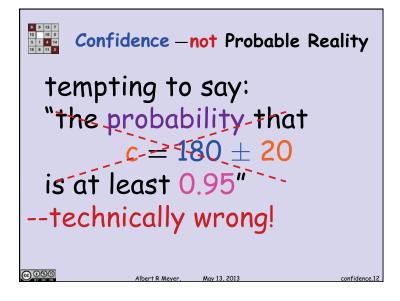














Confidence

- c is the actual average in the river.
- c is unknown, but not a random variable!



lbert R Meyer,

lay 13 2013



Confidence

The possible outcomes of our sampling process is a random variable. We can say that the "probability that our sampling process will yield an average that is \pm 20 of the true average at least 0.95"



R Meyer May 13 201



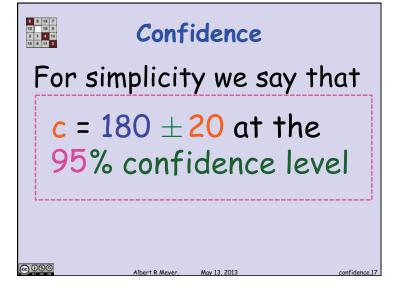
Confidence

Tell the EPA that with probability 0.95 our estimate method for avg CMD will be within 20 of the actual avg, c, in the river.

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Confidence
Moral: when you are told that some fact holds at a high confidence level, remember that a random experiment lies behind this claim. Ask yourself "what experiment?"

Confidence

Moral: Also ask "Why am I hearing about this particular experiment? How many others were tried and not reported?"

See http://xkcd.com/882/

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