
Wednesday, March 17th 2021

Wk 7, We

Topic:: Normal distributions

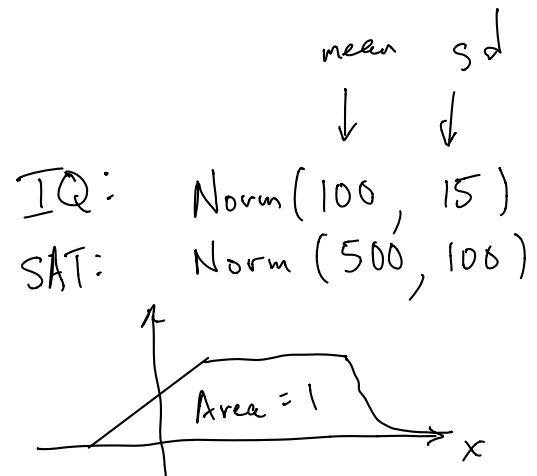
Read:: Lock5 5.1

Point browser tab at

<https://pad.disroot.org/p/s145-17mar2021-gXX>

Choose XX to match group in which you find yourself:

- XX = 01 for Pastoor, Bultje, Anderson
- = 02 for Haveman, Toldy, Sytsema
- = 03 for Ching, Morren
- = 04 for Steen, Wakeman, Arthur
- = 05 for Lemon, Stob, Johnson
- = 06 for Krikke, Aardema, Cheek
- = 07 for Opalewski, Tanis, Rai
- = 08 for Brink, Rudy, Katje
- = 09 for Ochiagha, Schneider, Nedd
- = 10 for Wolf, Triezenberg, Latvaitis



Normal distributions:

- really a family of distributions: one for each choice of mean, sd
- example of a density curve
 - never has a negative value
 - total area under curve is 1
- can be used for probability questions
 - distribution ought to be well-modeled by it
 - ```
manyXbars <- do(5000) * mean(~BodyTemp, data=resample(BodyTemp50))
```
  - ```
favstats(~mean, data=manyXbars)
```
 - ```
gf_dhistogram(~mean, data=manyXbars) %>%
```
  - ```
gf_dist("norm", params=list(mean=98.26, sd=.106))
```

funny?: makes sense to ask what is $\Pr[a < X < b]$, but not $\Pr[X=a]$

- Z-score

$$\Pr[100 \leq IQ \leq 115] \hat{=} 0.34$$

$$\Pr[100 \leq IQ < 115]$$

counts how many standard deviations to right/left of mean a value is
Z has Normal(0, 1) dist, called standard normal distribution

Activity/worksheet