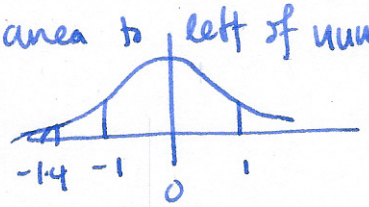
Standard normal table — area to left of number.

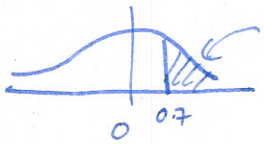


z	.00	.01	.02	...
-1.4	.0808	.0793	.0778	...
⋮				
0	0.5			

in R this is pnorm(z).

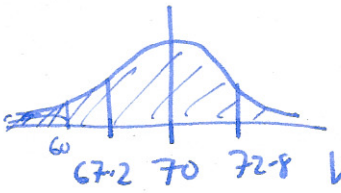
Example what is the probability that a value from an N(0,1) standard normal lies between -1.25 and 0.81?

pnorm(0.81) − pnorm(−1.25) = 0.7910 − 0.1056 = 0.6825



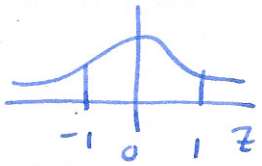
1 − pnorm(0.7).

Example height (1980, men age 18-24 ~ N(70, 2.8)).



Q: ~~how tall are people in the bottom 10%?~~
how many people are taller than 66"?

$$z = \frac{h-70}{2.8} = \frac{66-70}{2.8} = -1.4286$$



pnorm(−1.4286) = 0.07656, so ~~28.4%~~ 92% of people taller than this.

Q: how tall are the top 10%?

want z s.t. pnorm(z) = 0.9.

inverse function for pnorm is qnorm

qnorm(0.9) = 1.2816.

h = 2.8z + 70 = 73.6.

From the table: find 0.9!

...	.08	...
⋮	↑	
1.2	← 0.9	
⋮		

Q: how do you know if your data is normal?
A: normal quantile plot: in R qqnorm(data), qqline(data)

um

ut normal.