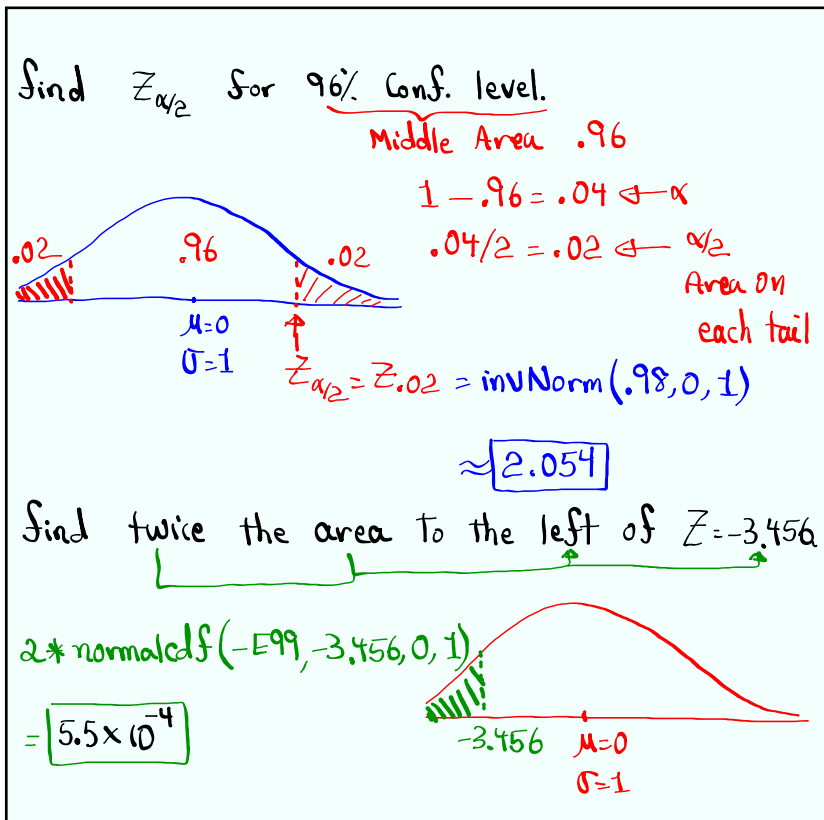


Statistics

Lecture 12



Feb 19-8:47 AM



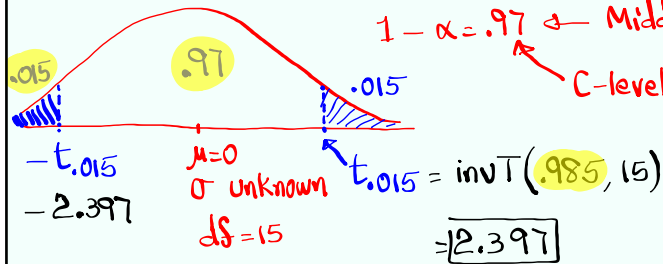
May 16-8:08 AM

Find $\pm t_{\alpha/2}$ for $\alpha = .03$ with $df = 15$.

$\alpha/2 = .015$ ← Area on each tail

$1 - \alpha = .97$ ← Middle area

← C-level 97%



Find the area to the right of $t = 1.876$
with $df = 11$.

2nd

VARS

L U df

$tcdf(1.876, 99, 11)$

$\mu = 0$
 σ unknown
 $df = 11$

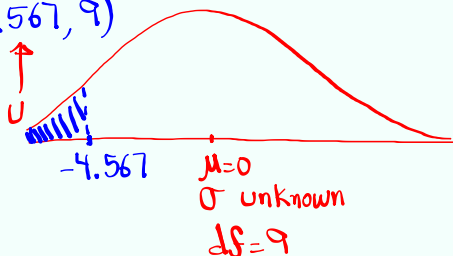
$\approx .044$

May 16-8:14 AM

Find twice the area to the left of
 $t = -4.567$ with $df = 9$.

$2 * tcdf(-99, -4.567, 9)$

$= .001$

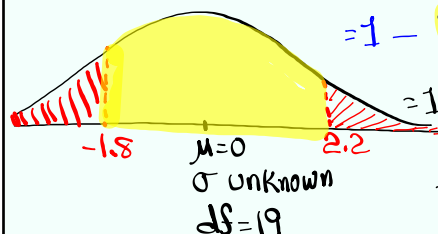


Find $P(t < -1.8 \text{ OR } t > 2.2)$ with $df = 19$.

$= 1 - P(-1.8 < t < 2.2)$

$= 1 - tcdf(-1.8, 2.2, 19)$

$= .064$



May 16-8:22 AM

Chi-Square dist.

χ^2 - Dist.

Positively

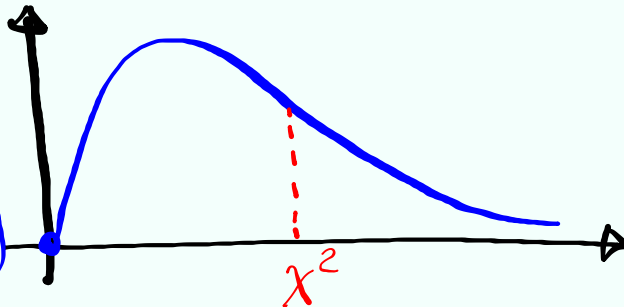
1) Graph begins at 0 and is skewed to the right.

2) Not symmetric but total area is 1.

For finding areas

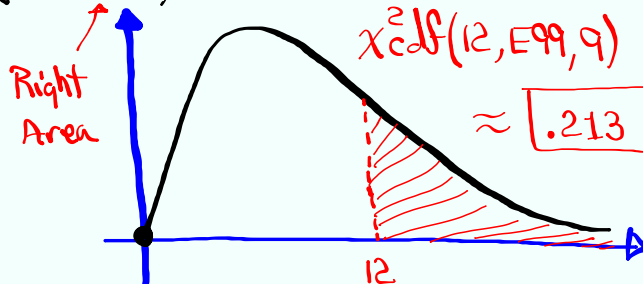
[2nd] [VARS]

$\chi^2 \text{cdf}(L, U, df)$

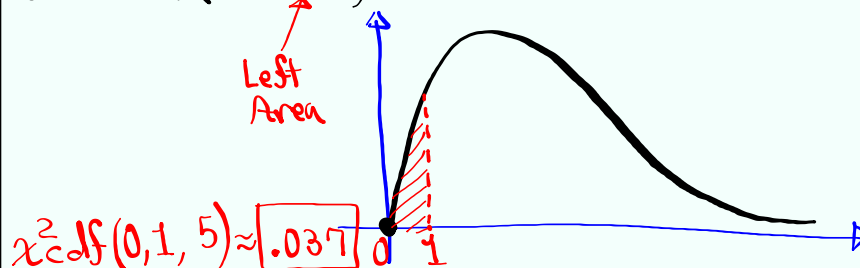


May 16-8:29 AM

Find $P(\chi^2 > 12)$ with $df=9$.

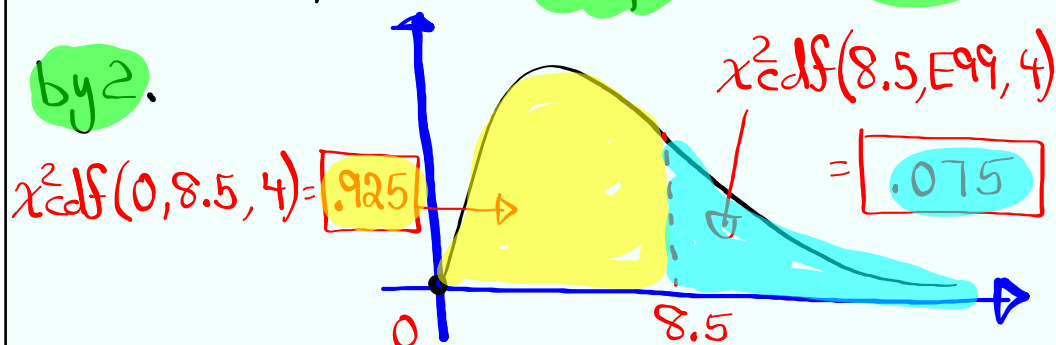


Find $P(\chi^2 < 1)$ with $df=5$.



May 16-8:33 AM

Find the area on both sides of $\chi^2 = 8.5$ with $df = 4$, then multiply the smaller area by 2.



$$2 * \text{Smaller area} = 2 * (.075) = .150$$

May 16-8:38 AM

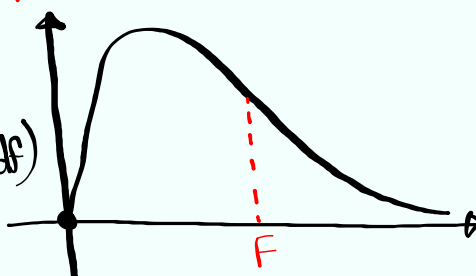
F-Dist.

- 1) Graph is similar to χ^2 -Dist. graph.
Starts at 0,
Positively Skewed
 - 2) It comes with two degrees of freedom.
Total area 1
Not Symmetric
- Ndf numerator df
Ddf denominator df

2nd VARS

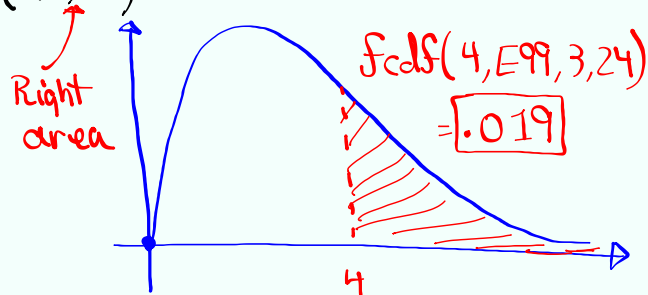
Fcdf(L, U, Ndf, Ddf)

To find areas/Prob.

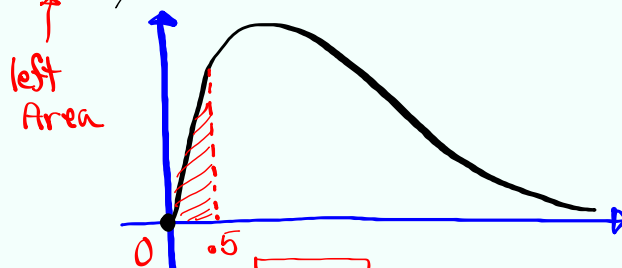


May 16-8:45 AM

find $P(F > 4)$ with $Ndf=3$ & $Ddf=24$.

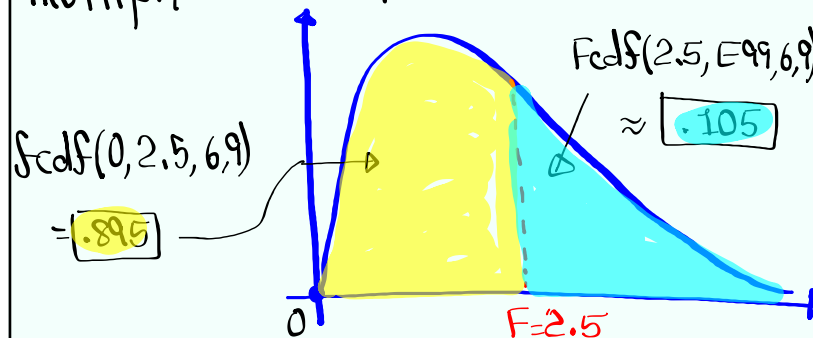


find $P(F < .5)$ with $Ndf=4$ & $Ddf=28$.



May 16-8:50 AM

find the area on both sides of $F=2.5$ with $Ndf=6$ & $Ddf=9$, then multiply the Smaller area by 2.



$$2 * \text{Smaller Area} = 2(.105) = .210$$

May 16-8:55 AM