

Discussion
Section 5

quiz 4 due at
canvas tonight;
take-home test 1 due ^①

AM 5131
13 Apr 19

at canvas tomorrow night; quiz 5
due at canvas Fri night.

line \leftrightarrow queue
u.s. British

(queuing theory)

independence: making joint distribution
calculations possible

and

$$f(t) = \frac{1}{t^2} = o(t) \quad \checkmark$$

$$f(t) = \sqrt{t} \neq o(t)$$

\sqrt{t} ← more slowly
 t

T-S case study

$Z = \#$ of T-S babies in family
 • $F(5)$, both parents carriers,
 prob. T-S on any single child

②

~~isolate LV~~

$(Y | n, p) \sim \text{Binomial}(n, p)$
 IID # of S/F trials

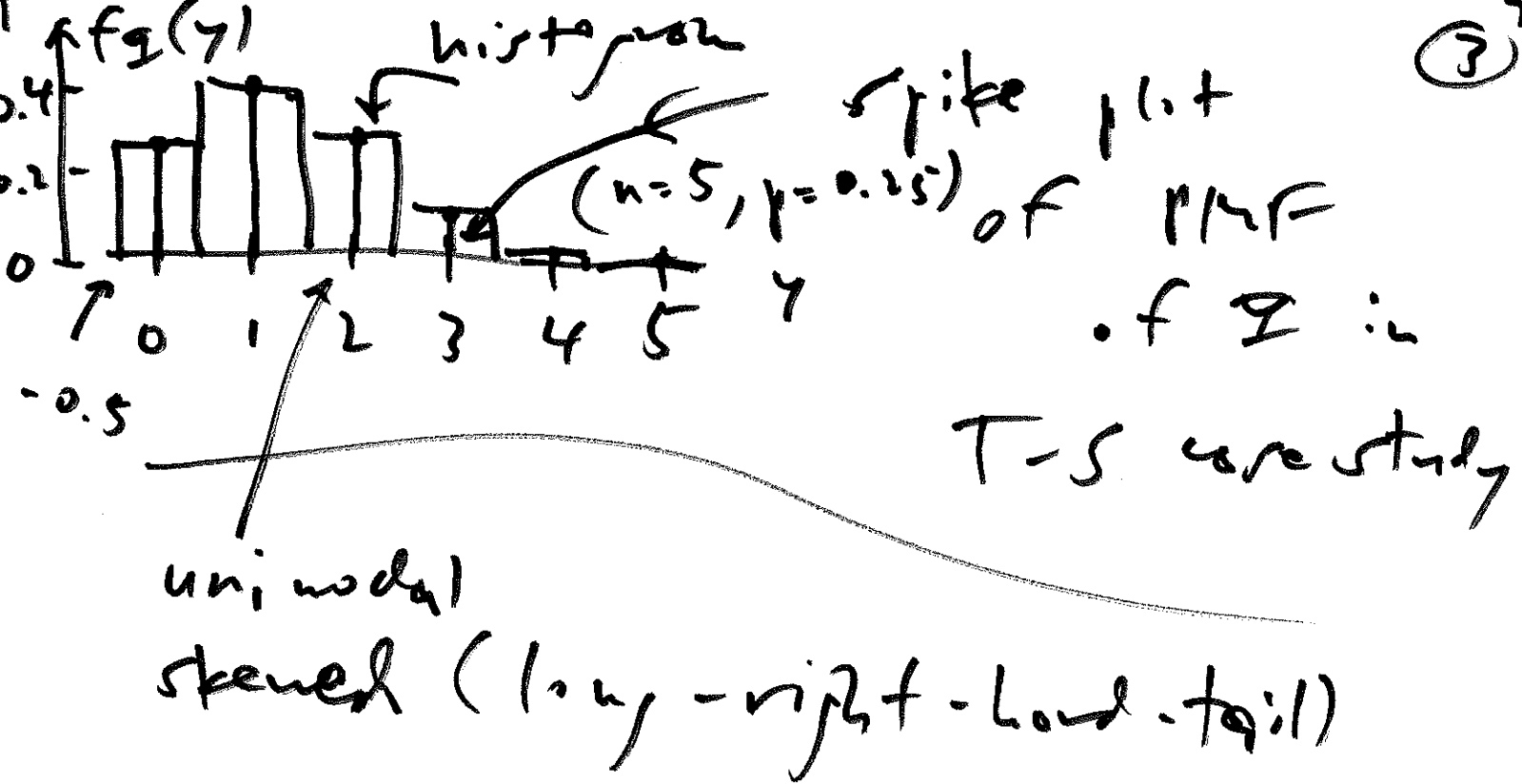
Binomial (n, p)
 PMF
 $f_Z(Y | n, p) =$

$p(S)$ on any single trial

$$\binom{n}{y} p^y (1-p)^{n-y} \quad I_{\{0, 1, \dots, n\}}(y)$$

d	binom
p	binom
q	binom
v	binom

- ← PMF or PDF values
- ← CDF values
- ← inverse CDF values (quantiles)
- ← simulate IID random draws from \hat{d} ist

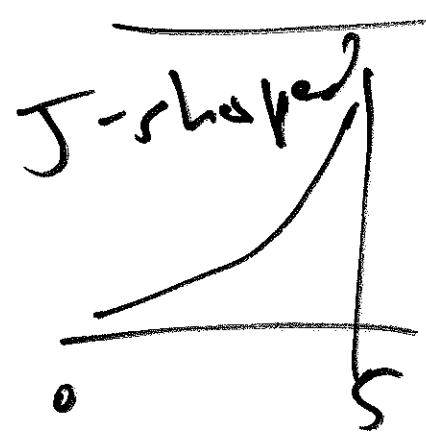


$p > \frac{1}{2}$ long left-long tail

$p = \frac{1}{2}$ symmetric

$p < \frac{1}{2}$ long right-long tail

unij.



$n=5, p=0.95$

