$x^{x^5} = 5$, find x

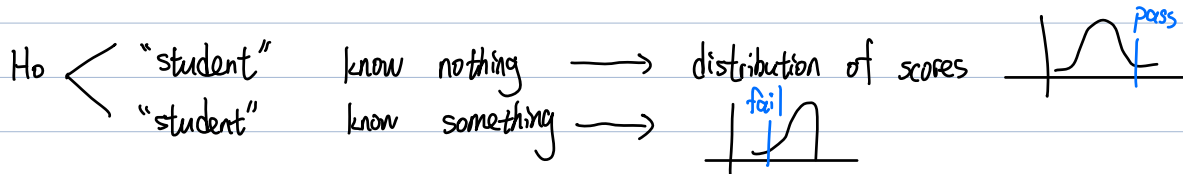$x^{5 \cdot x^5} = 5^5$, $x, y > 1 \Rightarrow (x^x = y^y \Rightarrow x = y)$

$x^5 = 5$, $x = 5^{\frac{1}{5}}$

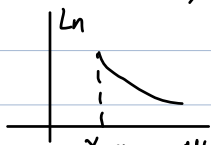local limit theorem: pmf $\rightarrow$ pdf
CLT: cdf $\rightarrow$ cdf

exam as hypothesis testing

H_0
- "student" know nothing $\longrightarrow$ distribution of scores pass
- "student" know something $\longrightarrow$ fail
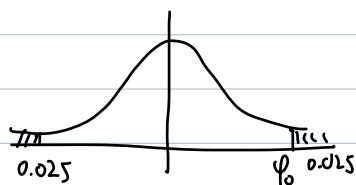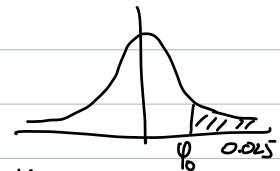

Hw 5

1. $X \sim U(0, \theta)$

$X_{(n)} \rightarrow$ MLE of θ, but biased $\rightarrow$ make unbiased
$\downarrow$
sufficient (factorisation thm)
showed complete $\Rightarrow \frac{n+1}{n} X_{(n)}$ is UMVUE by lehman-scheffé

2,3 — standard computation "plug-in"

4,5 — "pure math"

typical symmetric test statistic

$H_0 : \theta = \theta_0$ or $H_0 : \theta = \theta_0$
$H_1 : \theta > \theta_0$ $H_1 : \theta \neq \theta_0$
one side   two sides

0.025 φ_0 0.025