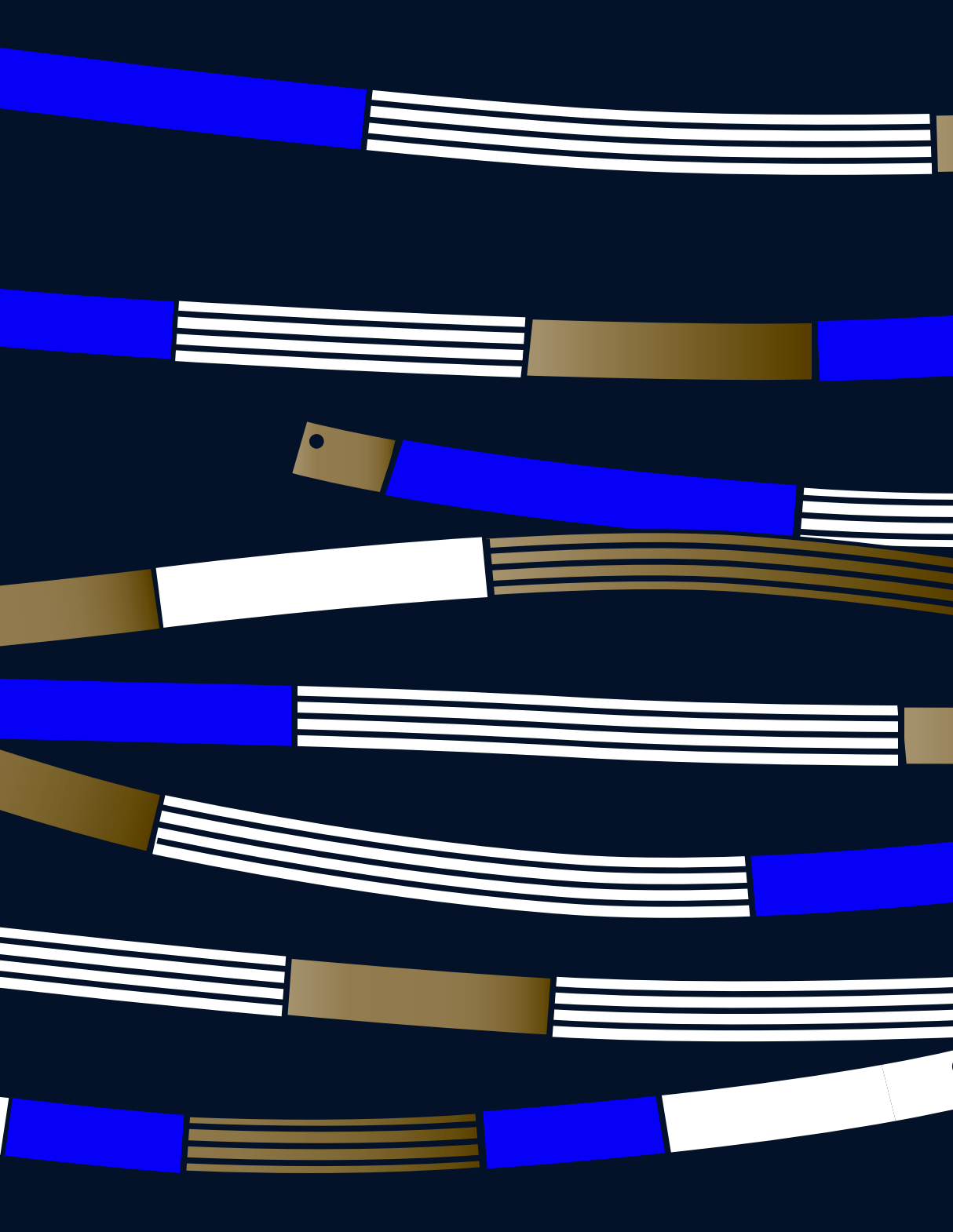
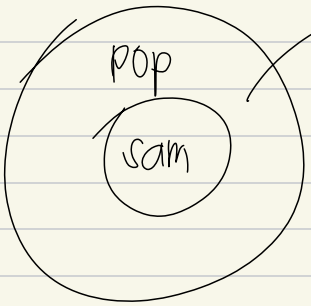


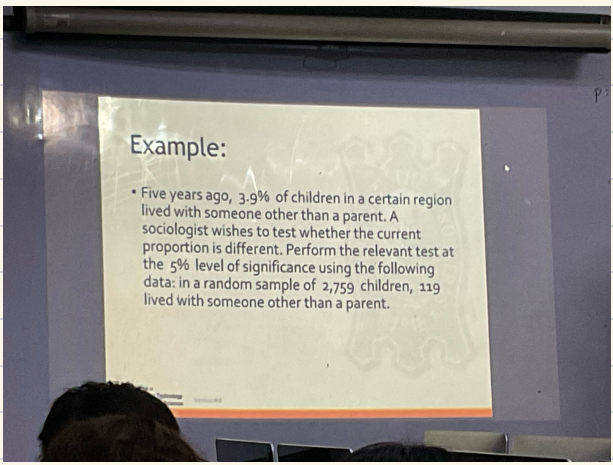


↳ statistics
↳ within → Descriptive → normal distribution
↳ beyond → Inferential
↳ significance test
↳ Quantitative
↳ Qualitative
} Proportions, P
↳ percentage
pop P samP

probability → p
↳ x
↳ coefficient
↳ regression

pop → N(P, M)

sample → n(p, $\bar{x}$)



$p = 3.9\%$ or 0.039

$H_0 = p = 3.9\%$

$H_a = p \neq 3.9\%$ (Two-tailed test

$n = 2,759$

$P_0 = 119$

$P = 119/2,759$

1) $P_c = 119$ (p constant)

$n = 2,759 \geq 30$

$\hat{p} = P_0/n$

$= 119/2759 \approx 0.043131356941$

2. $H_0: p = 3.9\%$

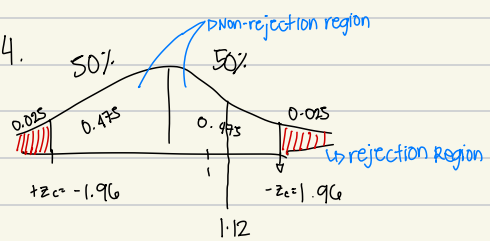
$H_a: p \neq 3.9\%$ (Hypothetical Value)

3. $se_0 = \sqrt{\frac{p(1-p)}{n}}$

$= \sqrt{\frac{0.039(1-0.039)}{2759}}$

$= 0.003685684$

4.



5. FTR H_0 : RE method

$z = \frac{\hat{p} - p}{se_0} = \frac{0.043131356941 - 0.039}{0.003685684} = 1.12$

p-value method

$H_a: p \neq 0.039$

$z = 1.12 \quad a = 0.3686$

p-value = $2(0.5 - 0.3686)$ (p if only 2 tailed)

$= 2(0.1314)$

$= 0.2628$

∴ FTR

p-value formula

One tailed: 0.5 - area

Two tailed: 2(0.5 - area)

$p \geq$ alpha = FTR

$p <$ alpha = Reject

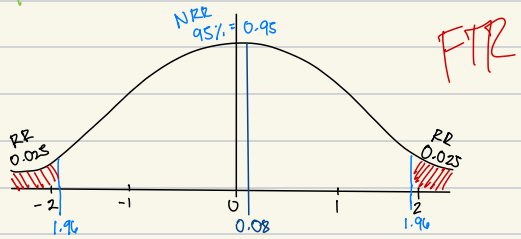
$n = 83$

$p_0 = 28$

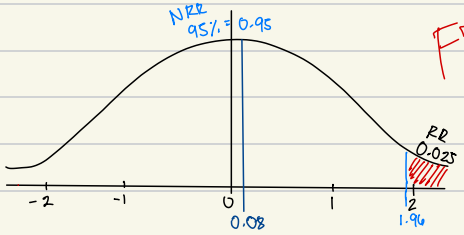
significance level = 5%

$H_0: p = 1/3$

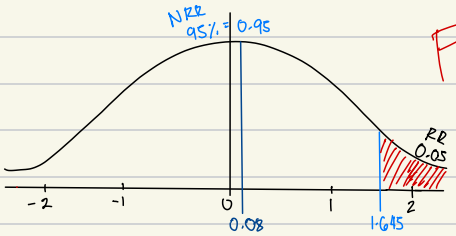
$H_a: p \neq 1/3$



FTR



FTR



FTR

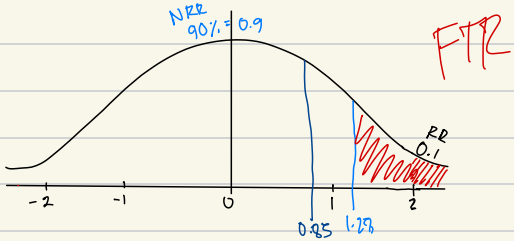
$\alpha = 0.1$ $n = 50$

$p = 28$ - coupon

$p = 22$ - poster

$H_0: p = 50\%$

$H_a: p > 50\%$



FTR

$z = 0.8485$

$\alpha = 0.05$ $n = 30$

$p_0 = 22$ - drug

$p_0 = 8$ - placebo

$H_0: p = 0.5$

$H_a: p \neq 0.5$