

8-2

Null hypothesis H_0 :
equality

Alternative hypothesis H_1 :

$<$
 $>$
 \neq

\neq 2 tailed

$<$ left tailed

$>$ right tailed



$p \neq .3$ two-tailed $\alpha = .10$



$$\frac{\alpha}{2} = .05$$

$$Z = \pm 1.645$$

within chart

$p < .3$ left-tailed $\alpha = .10$

$$Z = -2.33$$



$p > .3$ right-tailed $\alpha = .02$

$$Z = 2.05$$

$$1 - .02 = .98$$

pos. z-score

$$z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}}$$

$$2b. \hat{p} = \frac{462}{1005} = .4597$$

$$z = \frac{.4597 - .5}{\sqrt{\frac{.5(.5)}{1005}}}$$

$$z = \frac{-.0403}{\sqrt{\frac{.25}{1005}}}$$

$$z = \frac{-.0403}{.0158}$$

$$z = -2.56$$

p-value $\alpha = .05$
Significance level

29. $z = -1.25$

look-up $z = -1.25 \rightarrow .1056$

Compare $.1056$ to $.05$

P 402
p-value

p value $\leq \alpha$ Reject H_0

p value $> \alpha$ Fail
Reject H_0

$.1056 > .05$

Fail to Reject H_0

30. Right-tailed

$$z = 2.50 \quad \alpha = .05$$

lookup

$$z = 2.50 \rightarrow .9938$$

$$1 - .9938$$

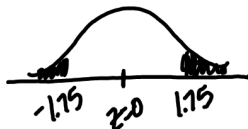
Compare $.0062 < .05$
Reject H_0

31. 2 tailed \neq

$$z = 1.75 \rightarrow .9599$$

$$1 - .9599$$

$$.0401$$



2-tailed $2(.0401)$

Compare $.0802 > .05$

Fail to Reject H_0

\neq two-tailed
 $>$ right-tailed
 $<$ left-tailed

8-3
p420.

$$\alpha = .05$$

7. $H_0: p = .75$

$$H_1: p \neq .75$$

$$z = \frac{\hat{p} - p}{\sqrt{\frac{pq}{n}}}$$

find $\hat{p} = \frac{1640}{2246} = .73$

$$z = \frac{.73 - .75}{\sqrt{\frac{.75(.25)}{2246}}}$$

$$z = \frac{-.02}{.0091}$$

$$z = -2.19$$

lookup $z = 2.19 \rightarrow .0143$

$$\neq \text{threshold } 2(.0143)$$

$$.0286 \leq .05$$

Compare Reject H_0