

	pop. param.	sample stat.
prop.	$p$	$\hat{p}$
mean	$\mu$	$\bar{X}$
STdev.	$\sigma_x$	$S_x$

- 1 Enter the proportion of orange candies from your sample of 25:

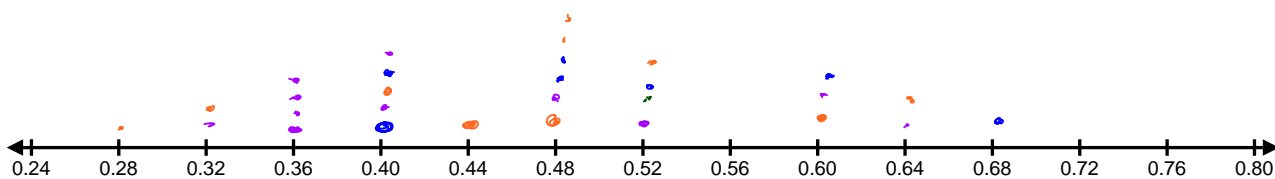
$$\frac{\quad}{25} = .\underline{\quad}\underline{\quad}$$

- enter to hundredths
- NO zero in front:

ex:

.52

.40



sample proportion  
of orange candies

p-r 95%

CLT → Central Limit Thm

describes the sampling dist. of  $\hat{p}$ :

Shape: approx. normal if  $np \geq 10$   
and  $n(1-p) \geq 10$

Center: @ param. (if unbiased)  
mean of  $\hat{p} = p$

Spread: st. dev. of  $\hat{p} = \sqrt{\frac{p(1-p)}{n}}$

$$s) \quad n=25$$

$$\text{mean of } \hat{p} = .45$$

$$\text{ST. dev. of } \hat{p} = \sqrt{\frac{.45(1-.45)}{25}} = .0995$$

$$t) \quad n=75$$

$$\text{mean of } \hat{p} = .45$$

$$\text{ST. dev. of } \hat{p} = \sqrt{\frac{.45(1-.45)}{75}} = .0574$$

$$u) \quad p = .10 \text{ (orange)}$$

$$n=25$$

$$np \geq 10 \quad \text{and} \quad n(1-p) \geq 10$$

$$25(.10) \geq 10 \quad 25(.90) \geq 10$$

$$2.5 \geq 10$$

$$22.5 \geq 10$$

cond. fails  
n is too small  
may not be normal

Symbols

13-6

12-10