

Quiz 4 #8

$$V(\hat{p}) = \frac{p(1-p)}{n}$$

$$\hat{p} = \frac{x}{n}$$

$$V(\hat{p}) = V\left(\frac{x}{n}\right) = \frac{1}{n^2} V(x)$$

$$= \frac{1}{n^2} \cancel{n} p(1-p)$$

$$= \frac{p(1-p)}{n}$$