

B

$$E \{n g_i(\beta)\} = n E \{g_i(\beta)\}$$

if selection is done at random, since it is uniform distribution

$$\Rightarrow P(i=j) = \frac{1}{n}$$

$$\Rightarrow E \{n g_i(\beta)\} = n \left[\sum_{i=1}^n g_i(\beta) P(i=j) \right]$$

$$= n \left[\frac{1}{n} \sum_{i=1}^n g_i(\beta) \right] = n \left[\frac{1}{n} \nabla \ell(\beta) \right]$$

$$\boxed{\nabla \ell(\beta)}$$

$$= E \{n g_i(\beta)\}$$
