

$$5) \quad V[\hat{\theta}] = V[\bar{x}] = V\left[\frac{x_1 + \dots + x_n}{n}\right] = \frac{1}{n^2} (V[x_1] + \dots + V[x_n])$$

$$* \quad V[x_i] = V[x_{i+1}] = V[x_{i+2}] = \dots = \theta^2$$

$$V[\hat{\theta}] = \frac{1}{n^2} [\theta^2 + \dots + \theta^2] \rightarrow V[\hat{\theta}] = \frac{\cancel{n} \theta^2}{n^{\cancel{2}}}$$

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$$\cancel{P.} \quad V[\hat{\theta}] = \frac{\theta^2}{n}$$