

1	2	3	4
331	156	0	513

$$\hat{\theta} = T(\hat{F})$$

$$\hat{E}[X] = T[\hat{F}]$$

$$= \int_{-\infty}^{\infty} x \cdot d\hat{F}(x)$$

$$= \sum_{-\infty}^{\infty} x \cdot d\hat{F}(x)$$

$$= \sum_x x \cdot \hat{f}(x) \quad \left[ \begin{array}{l} \text{this is} \\ \text{the table} \\ \text{above} \end{array} \right]$$

$$= \frac{1}{4} \sum x^4$$

$$= \left( 1 \cdot \frac{331}{1000} \right) + \left( 2 \cdot \frac{156}{1000} \right) + 0 + \left( 4 \cdot \frac{513}{1000} \right)$$

$$= \frac{331}{1000} + \frac{312}{1000} + \frac{2052}{1000}$$

$$= \frac{2695}{1000} = \boxed{2.695}$$

$$\hat{E}[X] = 2.695$$

$$E[X] = 2.66$$