

$$\left| \sum_k \int_{\{t^k\}} p(\cdot) - \int_T p(a, \cdot) \right|$$

$$= \left| \sum_k \int_{\{t^k\}} p(\cdot) - \int_{\{t^k\}} p(a, \cdot) dt \right|$$

just need $|T| = 0$

since $1_{\{t \in U_n(t)\}} \nearrow 1_{\{t \in T\}}$

$$+ \left| \int_{\{t^k\}} p(a, \cdot) - \int_T p(a, \cdot) \right|$$

+ need p bounded here! $\rightarrow 0??$

$$\left| \sum_k \int_{\{t^k\}} p(\cdot) - \int_{\{t^k\}} p(a, \cdot) dt \right|$$

need to use fact that both go to $p(a, \cdot)$

and use triangle but proof more or less same except factor of 2^N

$$\sum_k 2^{-nN} \left| \frac{1}{2^{nN}} \int_{\{t^k\}} p(\cdot) - p(a, \cdot) \right|$$

since all points except points on the boundary eventually are captured.

$$\leq \sum_k 2^{-nN}$$

as the unlabel is at most $|T| 2^{-nN}$?

$$\leq 8 (|T| 2^{-nN}) 2^{-nN} = 8 |T| \rightarrow 0$$

since each $\Delta_n(t) \subset T$ and are disjoint, $Q(Q)$

so in particular $\bigcup \Delta_n(t) \subset T$

$$\Rightarrow \frac{1}{2} \mu(\bigcup \Delta_n(t)) \leq$$

$$2^{-nN} \text{ (valued)} = \sum \mu(\Delta_n(t)) \leq |T|$$

why is $1/2$ needed??

