

by contradiction

$O: SAT \in TISP(n^{1.1}, n^{0.1})$

$\downarrow 1$   
 $NTIME(n) \leq TISP(n^{1.2}, n^{0.2})$

$\xrightarrow{2}$   
 $\underline{NTIME}(n^{1.0}) \leq TISP(n^{1.2}, n^2)$

$\xrightarrow{3}$   
 $NTIME(n) \leq DTIME(n^{1.2})$

$\xrightarrow{4}$   
 $\underline{S: TISP}(n^{1.2}, n^2) \leq \sum_2 \underline{TIME}(n^8)$

$\sum_2 \underline{TIME}(n^8) \leq \underline{NTIME}(n^{3.6})$

for  $f(n) \in o(g)$

$NTIME(f) \not\leq NTIME(g)$

$NTIME(n^{1.0}) \leq NTIME(n^{3.6})$

non-det. time hierarchy theorem