

11b  $L = \{ \langle M, P \rangle \mid M \text{ is a TM, } P \text{ is a PDA, } L(P) \subseteq M^* \}$

$SUB_{CFG} \leq_T L$ .

~~↳ This is true, b:~~

$SUB_{CFG}$  can be decided with an oracle to  $L$  by converting a CFG to a TM, and then asking the oracle whether to decide.

$SUB_{CFG}$  is undecidable (lec 8, slide 135)

$A \leq_T B \mid A \text{ undecidable} \rightarrow B \text{ undecidable}$

$\therefore L$  is undecidable.