A Turing machine twerks on input $w$ if right before accepting $w$ the machine moves to the right 2 squares, then left 2 squares, then right two squares, then accepts. Consider the following language:

$$T = \{\langle M_{iley} \rangle | M_{iley} \text{ is a Turing machine that twerks on every input it accepts}\}$$

Prove that $T$ is not recognizable by doing a reduction from $\overline{A_{TM}}$ to $T$, $\overline{A_{TM}} \leq_m T$.

Consider the