## 10 pts

On paper write a Turing Machine with building blocks for multiplying two unary numbers. You may work with 1 or two others for this classwork.

Problem: Multiply two unary numbers, $f(x * y)=x * y, x$ and $y$ unary numbers. Assume $x, y>0$.

| start with: | $1111 * 11$ <br> $\uparrow$ |
| :--- | :--- |
| end with: | 11111111 <br>  |

Turn it in a sheet of paper with both names on it.
Give the running time, big-Oh, assuming the $|x|=n,|y|=m$.

