$$p(x,y) \propto e^{-xy}\, I(x,y \in (0,c))$$

$$p(x|y) \propto_x e^{-xy}\, I(0 < x < c) \quad (1)$$ dropped the ind on y

$$\propto_x \text{Exp}(x|y)\, I(x < c) \quad (2)$$

why (1) (2)

Recall: If $X \sim \text{Exp}(y)$ then $p(x|y) \overset{\text{defn}}{=} y e^{-yx} I(x > 0) \propto_y e^{-xy}$ (see slide 9 for defn Exp dists.)

$$\text{Exp}(x|y)\, I(x < c) \quad (2)$$

$p(x|y)$ is often called a truncated Expon. w/ trun. point c.

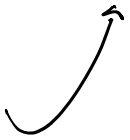
1. Taking $X \sim \text{Exp}(y)$ and cond. on the fact that $x < c$.

   Formally, $X \sim \text{Exp}(y) \mid X < c$.

2. We'll write this as $\text{TExp}(y, (0,c))$

Next steps: he know how to

draw from Exp but we don't know how to draw samples from the TExp.

Thurs:  learn how to do this.