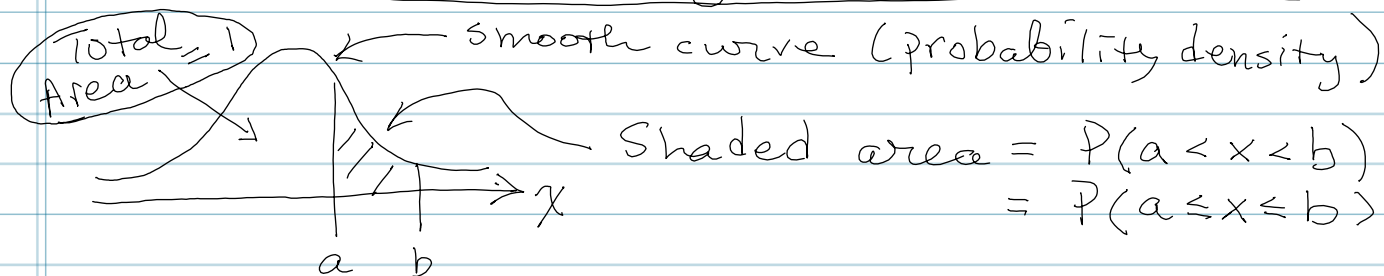
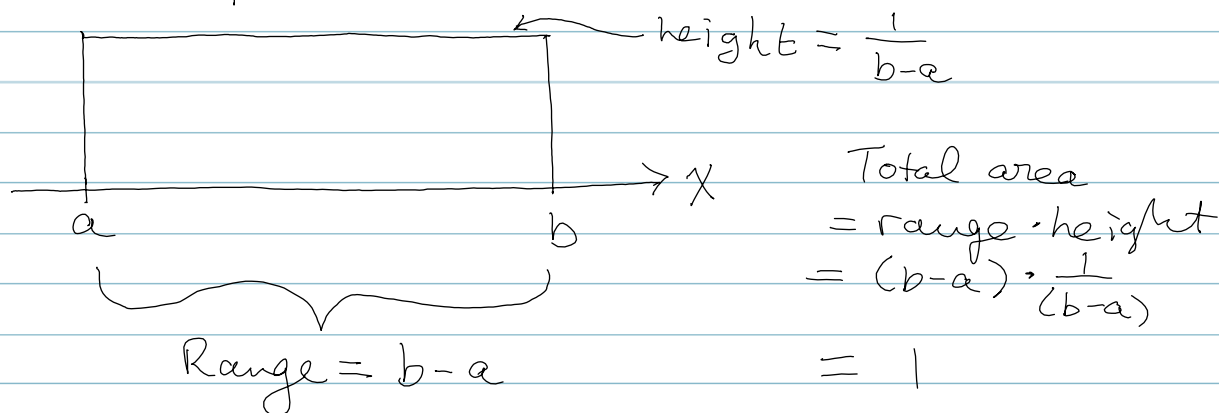


Intro to Continuous Probability Distributions

6.1

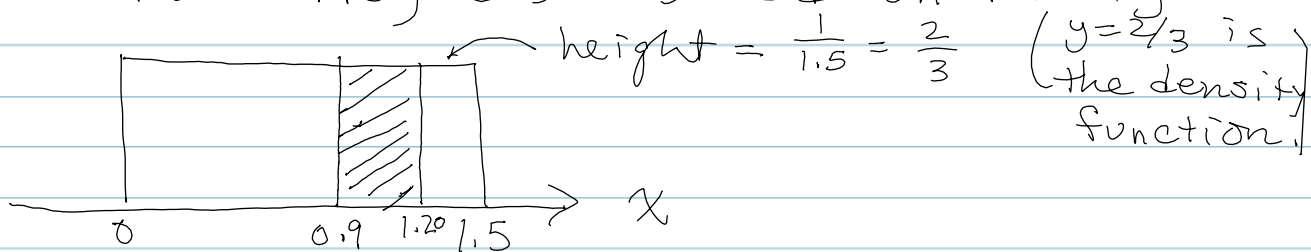


Simple Example → Continuous Uniform Distribution



$$\mu = E(x) = \frac{a+b}{2}$$

Used batteries → have voltages from 0 to 1.5 volts, distributed uniformly.



$$\mu = E(x) = \frac{0+1.5}{2} = \boxed{0.75}$$

$$\text{range} = 1.5 - 0 = 1.5 = \frac{3}{2}$$

$$\begin{aligned} \text{Compute } P(0.9 < x \leq 1.20) &= \text{base} \cdot \text{height} \\ &= (1.2 - 0.9) \cdot \frac{2}{3} = 0.3 \cdot \frac{2}{3} \\ &= 0.2 \end{aligned}$$