Solution for exercise 4.3.1 in Pitman

Question a) The survival function $G(t) = P(T > t)$ is introduced and defined page 297

$$P(T \leq b) = 1 - P(T > b) = 1 - G(b)$$

Question b)

$$P(a \leq T \leq b) = P(T \leq b) - P(T < a) = G(a) - G(b)$$

$(P(T < a) = P(T \leq a)$ for a continuous distribution).