Question 1. *A circle with radius of* $63.010\mu m$ *is centered at the origin of a CCS. Angles* α *and* β *are in standard position,* $\alpha = 1.100$ *radians, and* $\beta = 1.257$ *radians. What is the length of the arc that is captured between* α *and* β*.*

Solution. The arc between α and β connects the endpoints of the terminal sides of α and β. Therefore, it subtends the angle $\beta - \alpha = 1.257 - 1.1 = 0.157$ radians. Thus, the length of this arc is

$$(\beta - \alpha)R = 0.157 \cdot 63.010 \approx 9.89\mu m$$

Answer: $\approx 9.89\mu m$. □