SHOW ALL YOUR WORK

1. The circle shown at right has a diameter of 5 inches. The central angle is 85°.

(a) (8 pts.) Find the shaded area.

\[ A = \frac{1}{2} \theta r^2 = \frac{1}{2} (85^\circ) \left( \frac{\pi}{180^\circ} \right) (5 \text{ in})^2 \]
\[ \approx 5.9\pi \text{ in}^2 \]

(b) (8 pts.) Find the length of the subtended arc.

\[ s = r\theta = (5 \text{ in}) (85^\circ) \left( \frac{\pi}{180^\circ} \right) \]
\[ \approx 2.36\pi \text{ in} \]