



$$|\widehat{AB}| = \frac{30 \cdot 2\pi \cdot 4}{360} = \frac{240\pi}{360} = \frac{2\pi}{3}$$

$$|DOE| = \frac{50\pi 4^2}{360} = \frac{800\pi}{360} = \frac{20\pi}{9}.$$