

Conditions

Find the length of the arc when the radius is 5 in and the central angle measure is 140° . Include the exact and the approximate rounded to the nearest hundredth. Be sure to include the correct units. Be sure to use the correct unit of measure (degrees, radians, ft, etc).

Solution

The formula of the length of the arc with the radius r and angle a :

$$L = 2\pi r \frac{\alpha}{360} = 2 \cdot 3,14 \frac{140}{360} = 6,28 \cdot \frac{7}{18} \approx 2,44$$

Answer: 2,44