

호도법을 사용한 부채꼴의 호의 길이와 넓이

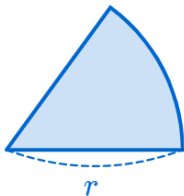
(Fan-shaped arc length and width using radian)

Fan-shaped arc length and width using radian

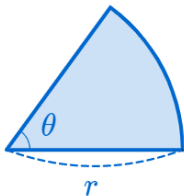
Fan-shaped arc length and width using radian



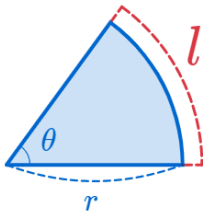
Fan-shaped arc length and width using radian



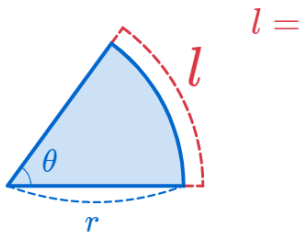
Fan-shaped arc length and width using radian



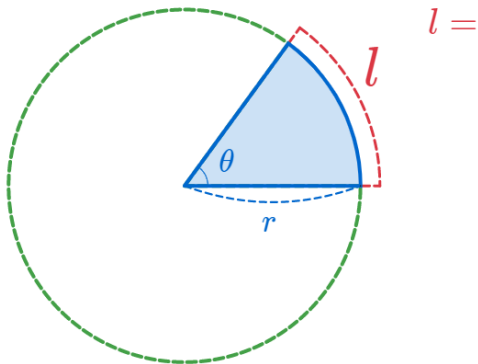
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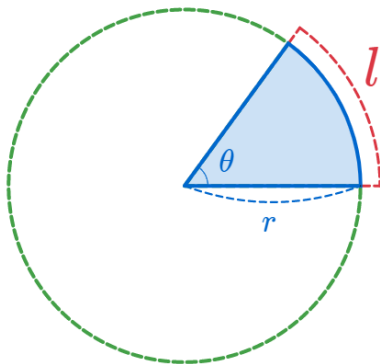


Fan-shaped arc length and width using radian

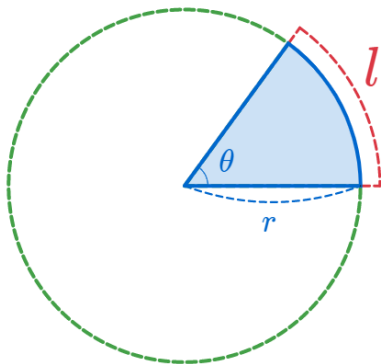


Fan-shaped arc length and width using radian



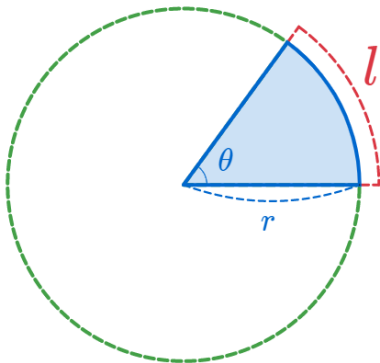


$$l = 2\pi r$$

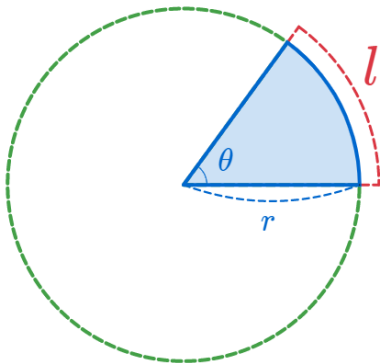


$$l = 2\pi r \times \frac{\theta \text{ rad}}{2\pi \text{ rad}}$$

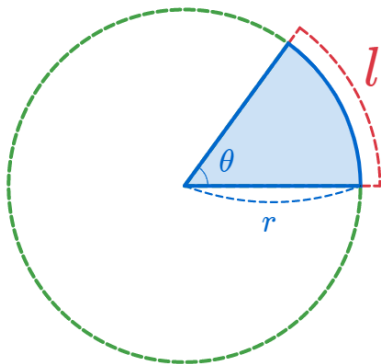
Fan-shaped arc length and width using radian



$$\begin{aligned} l &= 2\pi r \times \frac{\theta \text{ rad}}{2\pi \text{ rad}} \\ &= 2\pi r \times \frac{\theta}{2\pi} \end{aligned}$$

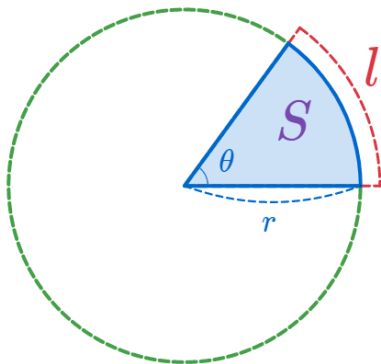


$$\begin{aligned} l &= 2\pi r \times \frac{\theta \text{ rad}}{2\pi \text{ rad}} \\ &= 2\pi r \times \frac{\theta}{2\pi} = r\theta \end{aligned}$$



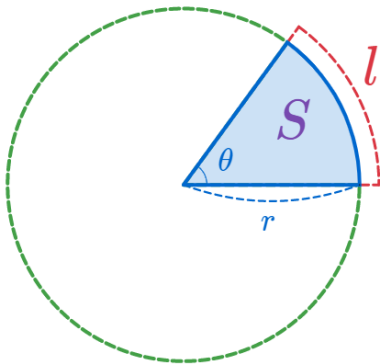
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$$\therefore l = r\theta$$



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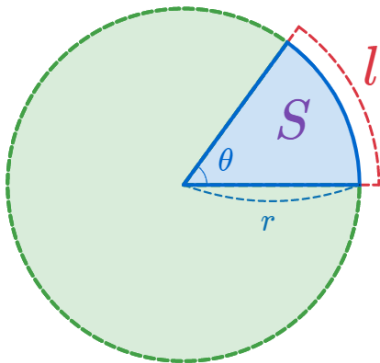
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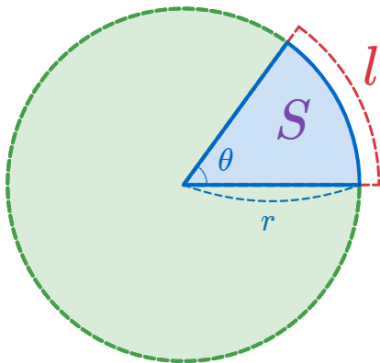
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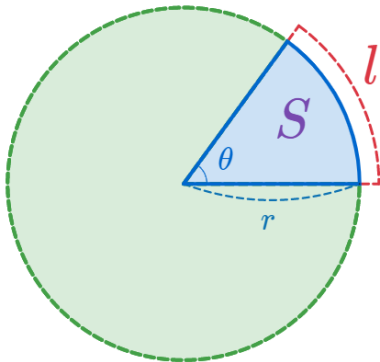
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$$S = \pi r^2$$

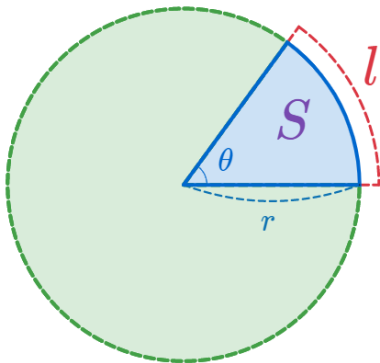
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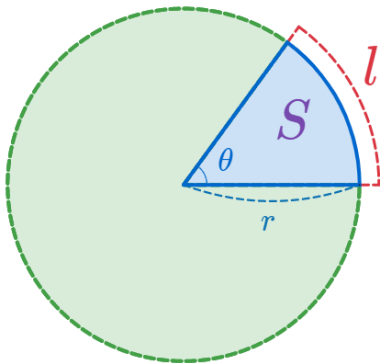
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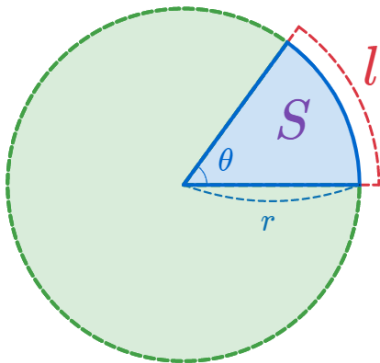
$$S = \pi r^2 \times \frac{\theta \text{ rad}}{2\pi \text{ rad}} = \pi r^2 \times \frac{\theta}{2\pi}$$



$$\therefore l = r\theta$$

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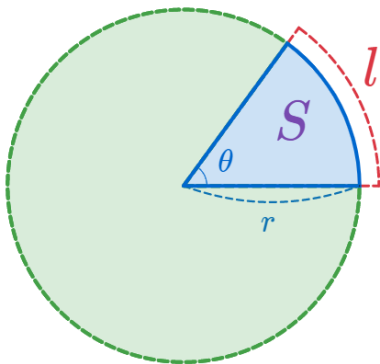
$$\begin{aligned} S &= \pi r^2 \times \frac{\theta \text{ rad}}{2\pi \text{ rad}} = \pi r^2 \times \frac{\theta}{2\pi} \\ &= \frac{1}{2} r^2 \theta \end{aligned}$$



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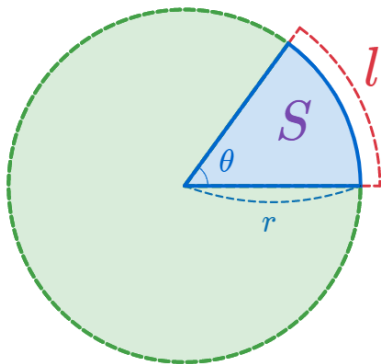
$$\begin{aligned} S &= \pi r^2 \times \frac{\theta \text{ rad}}{2\pi \text{ rad}} = \pi r^2 \times \frac{\theta}{2\pi} \\ &= \frac{1}{2} r^2 \theta = \frac{1}{2} r \times r\theta \end{aligned}$$



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$$\therefore S = \frac{1}{2} r^2 \theta = \frac{1}{2} r l$$

Github:

<https://min7014.github.io/math20200518001.html>

Click or paste URL into the URL search bar, and you can see a picture moving.