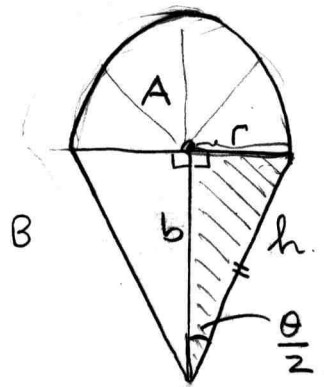


p175 §3.6/(4b).



$$A = \frac{1}{2} \pi r^2$$

$$B = 2 \cdot \frac{1}{2} r b$$

$$\frac{A}{B} = \frac{\frac{1}{2} \pi r^2}{r b} = \frac{1}{2} \pi \frac{r}{b}$$

$$\sin\left(\frac{\theta}{2}\right) = \frac{r}{h}$$

$$\cos\left(\frac{\theta}{2}\right) = \frac{b}{h}$$

$$r = h \sin \frac{\theta}{2}$$

$$b = h \cos \frac{\theta}{2}$$

$$\frac{A(\theta)}{B(\theta)} = \frac{\frac{1}{2} \pi h \sin \frac{\theta}{2}}{h \cos \frac{\theta}{2}}$$

$$\lim_{\theta \rightarrow 0} \frac{A(\theta)}{B(\theta)} = \frac{1}{2} \pi \cdot \frac{0}{1} = 0 \quad //$$

Notice this means as $\theta \rightarrow 0$,
the semi-circle loses area
faster than the triangle.