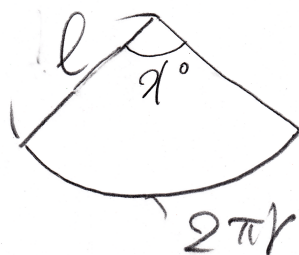
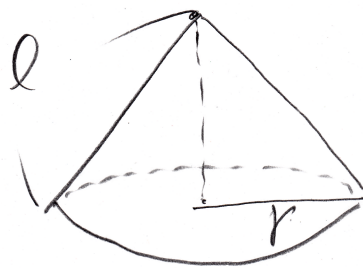


# 円錐の側面積の導出

$$S = l \times r \times \pi$$



《証明》 扇形の中心角 α° と弧長

$$\left\{ \begin{array}{l} 360^\circ : \pi l^2 = \alpha^\circ : S \\ 360^\circ : 2\pi l = \alpha^\circ : 2\pi r \end{array} \right.$$



$$\left\{ \begin{array}{l} S \times 360^\circ = \pi l^2 \times \alpha^\circ \quad \text{--- (1)} \\ 360^\circ \times 2\pi r = 2\pi l \times \alpha^\circ \quad \text{--- (2)} \end{array} \right.$$

②より  $\alpha^\circ = 360^\circ \times \frac{r}{l}$

①に代入すると  $S \times 360^\circ = \pi l^2 \times 360^\circ \times \frac{r}{l}$

$$S = \pi l r$$

表面積は  $S' = \pi l r + \pi r^2$   
側面積