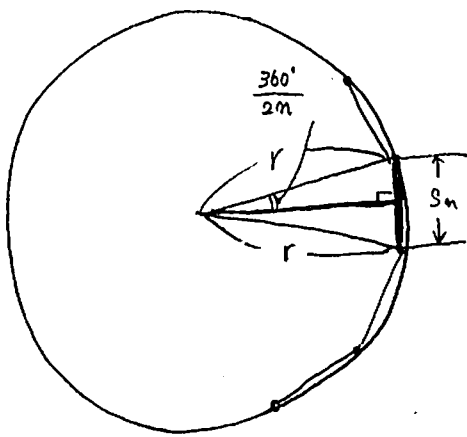
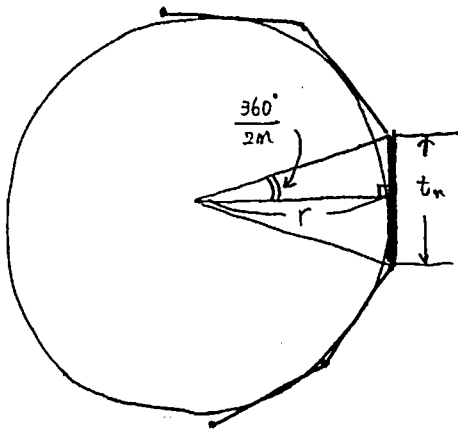


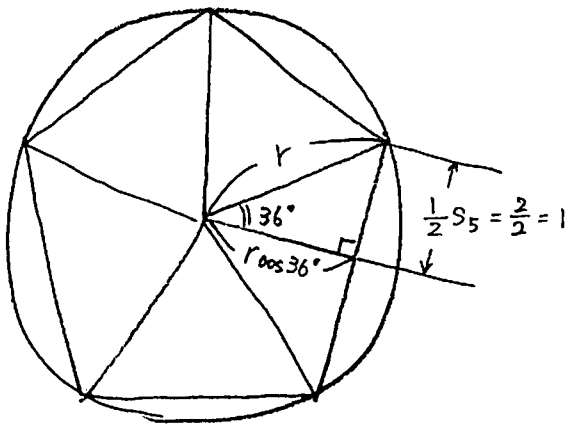


$$(1) S_n = 2r \sin \frac{360^\circ}{2n} = \boxed{2r \sin \left( \frac{180^\circ}{n} \right)}$$



$$(2) t_n = 2r \tan \frac{360^\circ}{2n} = 2r \tan \left( \frac{180^\circ}{n} \right) \text{ より}$$

$$\frac{S_n}{t_n} = \frac{2r \sin \left( \frac{180^\circ}{n} \right)}{2r \times \frac{\sin \left( \frac{180^\circ}{n} \right)}{\cos \left( \frac{180^\circ}{n} \right)}} = \boxed{\cos \left( \frac{180^\circ}{n} \right)} \quad \text{と53}$$



$$(3) \frac{\frac{1}{2} S_5}{r} = \sin 36^\circ \text{ より } \frac{1}{r} = \sin 36^\circ$$

$$\text{よって } r = \frac{1}{\sin 36^\circ} \quad \text{--- ①}$$

よって求める5角形の面積は

$$10 \times \frac{1}{2} \times (r \cos 36^\circ) \times \frac{1}{2} S_5$$

$$= 5r (\cos 36^\circ) \times 1$$

$$= 5 \times \frac{\cos 36^\circ}{\sin 36^\circ}$$

(①より)

$$= \frac{5}{\tan 36^\circ}$$

$$= \frac{5}{0.727}$$

$$= 6.877 \dots$$

と53の72

$$\boxed{\text{約 } 6.88}$$

と53

$$\begin{array}{r} 6.877 \\ 727 \overline{) 5000} \\ \underline{4362} \\ 6380 \\ \underline{5816} \\ 5640 \\ \underline{5089} \\ 5510 \\ \underline{5089} \end{array}$$