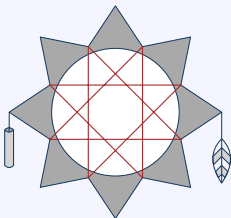
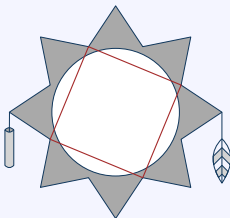


- Given a wheel with  $n \leq 10^9$  evenly spaced notches.
- Wrap a string of yarn around it by starting at notch 1, and repeatedly connecting the yarn  $k$  notches ahead until you reach notch 1 again.
- What value of  $k$  maximizes the amount of used string?



A dreamcatcher with 8 notches, wrapped in a string of yarn for  $k = 2$  and  $k = 3$ .



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