## Curved-tip Stars

Curved-tip stars are images that use the vertex frame to create curved angles at each point of the star. This is very much like having a classic V -shaped image at each point of the star. Such images are easy to create. All you need is $\boldsymbol{P}<\boldsymbol{S}$. The smaller is $\boldsymbol{P}$ relative to $\boldsymbol{S}(\boldsymbol{P} / \boldsymbol{S}$ is smaller), the smaller will be the curves at each vertex. Each of the first six images below has $\boldsymbol{n}=11, \boldsymbol{S}=23$ and $\boldsymbol{J}=5$. The top row from left to right has $\boldsymbol{P}=8,12,14$ and the bottom row has $\boldsymbol{P}=16,17,18$.


As $\boldsymbol{P}$ gets closer to $\boldsymbol{S}$, each curve become harder to see, especially once $\boldsymbol{P} / \boldsymbol{S}>0.7$ as there is no longer "white space" like in the final image above.

The bottom 3 images have the same $\boldsymbol{n}, \boldsymbol{S}$, and $\boldsymbol{P}$ as the upper left image but now we vary the size of $\boldsymbol{J}$. As $\boldsymbol{J}$ changes from 4 to 3 to 2 and so does the value of $\boldsymbol{P}$ required to keep the internal intersections cleanly visible (you could check that the largest $\boldsymbol{P}$ where the first intersections occur as lines not curves is $\boldsymbol{P}=6$ for $\boldsymbol{J}=4$ and 3 but $\boldsymbol{P}=7$ for $\boldsymbol{J}=2$ ).


Curved-tip polygons are created if $\boldsymbol{J}=1$. In this instance, the inside image is most "circle-like" when $\boldsymbol{P}$ is close to half of $\boldsymbol{S}$.

