## The Relative Size of $S$ and $P$ in Quivering Polygons



Quivering polygons are created by having $\boldsymbol{P}=\boldsymbol{n}$ just above or just below $\boldsymbol{S}$ which is a multiple of $\boldsymbol{J}$. The two 40 -line images we have focused on are shown side by side above. The one on the left has $\boldsymbol{P}=39<40=\boldsymbol{S}$ and on right $\boldsymbol{P}=41>40=\boldsymbol{S}$.

All images are based on the subdivision points on the vertex frame. When $\boldsymbol{P}<\boldsymbol{S}$ at least some part of the vertex frame will be in the final image because two endpoints are on the same part of the vertex frame. By contrast, if $\boldsymbol{P}>\boldsymbol{S}$ this will not be the case because each subsequent point MUST be on a different part of the vertex frame.

Both scenarios are seen by comparing images above with their vertex frames below. The difference is apparent in the lines emanating from $39 \& 0$ and $41 \& 0$ in each image. The $1^{\text {st }}$ and $40^{\text {th }}$ line segment in the upper left are on the $1^{\text {st }}$ and $39^{\text {th }}$ part of the vertex frame (from 0 to 10 and 29 to 39 ). Those same segments in the upper right are below the first and last part of the vertex frame from 0 to 10 and 31 to 41 . (They are on segment from 10 to 20 and 21 to 31 since $P=S+1$ ).


