## A Primer on $P$, the Number of Subdivisions between Points

Lines are drawn every $\boldsymbol{P}$ subdivision points. The left column provides subdivision counts from the $\boldsymbol{S}$ primer. The top image shows $\boldsymbol{P}=2$ so a line is drawn (read $\rightarrow$ as draw line) every second subdivision endpoint. The first 4 lines connect even vertices $0 \rightarrow 2 \rightarrow 4 \rightarrow 6 \rightarrow 8$. The next line (Line 5) goes from $8 \rightarrow 1$ because $8+2-9=1$ is the second endpoint after 8 since counting continues past the top (here 9 , just like 1 o'clock is 2 hours after 11 o'clock). This is the key to counting. From there, the last 4 lines connect odd vertices $1 \rightarrow 3 \rightarrow 5 \rightarrow 7 \rightarrow 9 \& 0$. The image is completed with 9 connected lines.


The next three drawn images have $\boldsymbol{S}=2$ and $\boldsymbol{P}=3$ but differ by $\boldsymbol{n}$ and $\boldsymbol{J}$. The same rules apply to line creation as before. $\boldsymbol{n}=4$. The first 2 lines connect vertices $0 \rightarrow 3 \rightarrow 6$ but $6+3-8=1$, so $6 \rightarrow 1 \rightarrow 4 \rightarrow 7 \& 7+3-8=2$, so $7 \rightarrow 2 \rightarrow 5 \rightarrow 8 \& 0$.

$\boldsymbol{n}=\mathbf{5}$. The $1^{\text {st }} 3$ lines connect $0 \rightarrow 3 \rightarrow 6 \rightarrow 9$ but $9+3-10=2$, so $9 \rightarrow 2 \rightarrow 5 \rightarrow 8 \& 8+3-10=1$, so $8 \rightarrow 1 \rightarrow 4 \rightarrow 7 \rightarrow 10 \& 0$.


10\&0

5
9

3


Line 4


