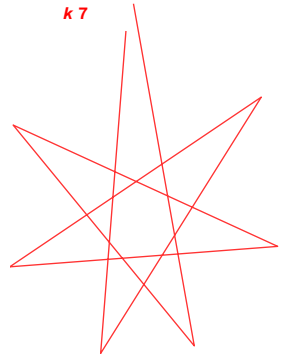
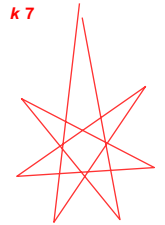
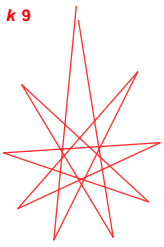
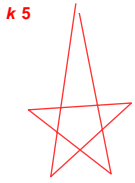


9.7. Using Shape-Shifting Stars to Explore Curves from Lines



Many images have line-created curves (see Section 9.3) that seem to connect vertices of different lengths from one another. When the image is created in a multiple-times-around fashion it is difficult to see exactly what contributed to the curve in the end. This is less of an issue if the image is created in a 1-time around fashion such as the four images shown here. The first three [\(13,52,135,8\)](#), [\(16,37,169,9\)](#) and [\(20,38,169,9\)](#) are from Sections 10.5, 9.6, and 5.3 and the last is [\(12,19,163,7\)](#). Each is single-step (Section 8.5.1) and the stars associated with those steps are shown to left and right.

Two curves. Each image has two distinct curves emanating from each side of each vertex. *The easiest way to see this is using FCLD with DL set at single-step length.* Counting in our normal clockwise fashion, each spinning star's upper right vertex 1 will end at polygon vertex **1**, 2 will end at vertex **2** and so on.

Consider where the curves starting at 0 end. Upper left ends at **2** and **3**. Upper right ends at **3** and **4**. Lower left ends at **4** and **5**. Lower right ends at **3** and **4** but this one is harder to visualize because the 7,3-star sub-image surrounds the center (which is why it is so large to the right) but if you stare at it being drawn in FCLD with DL = 7 for a while, it will become clear to you.

