

# Advanced Graphics in Microsoft Word

Isaac Greenspan • isaac@IsaacGreenspan.com • <http://talks.IsaacGreenspan.com/>

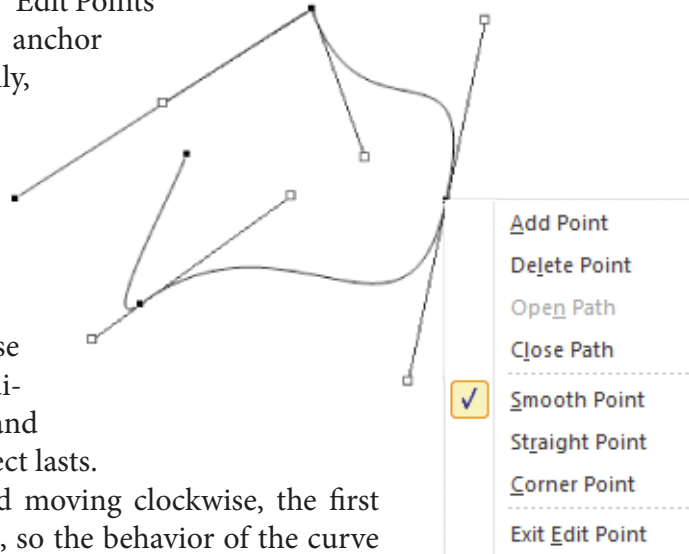
MMC Conference of Workshops, Lincoln-Way Central High School, New Lenox, IL, Saturday, January 28, 2012

A longer version is available online at <http://talks.IsaacGreenspan.com/AdvancedGraphicsInWord-2012.pdf>

---

The curve tool is one of the most powerful tools in Word. Curves are based on anchor points and behavior at those anchor points. In the composite screenshot below, we have a curve with five anchor points (black boxes). Once a curve is drawn (or, rather, roughed in), we can fine tune it using the “Edit Points”

feature, where we are presented with the anchor points to move, select, and modify. Normally, the “handles” coming from the anchor points and ending in white boxes are not shown unless an anchor point is selected and then are only shown for one point at a time (at right is a composite of several screen images to show the various types of anchor points). These handles, roughly speaking, determine the direction of the curve at the anchor point and how far away from the anchor point the effect lasts.

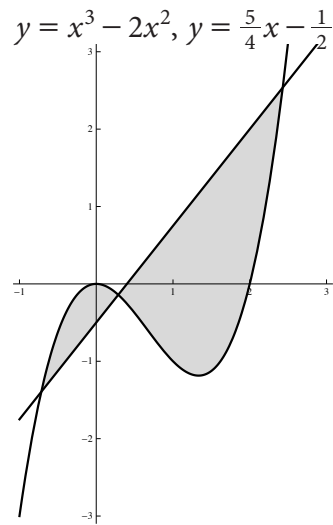
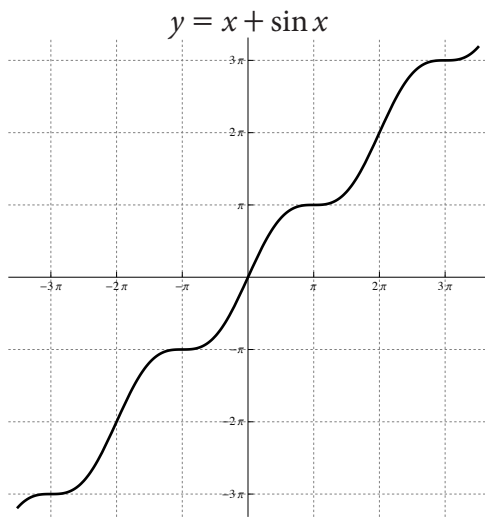


Beginning from the leftmost point and moving clockwise, the first point is an “Auto Point” and has no handle, so the behavior of the curve at that point is largely governed by the surrounding points. The segment joining that point to the second point is set as a “Straight Segment,” as opposed to the rest of the segments which are set as “Curved Segment.” The second anchor point is a “Corner Point,” so the two handles move completely independently from one another, allowing a sharp corner in the curve. The third anchor point, as shown in the menu, is a “Smooth Point,” so the handles are always the same length and in opposite directions, leading to a smooth curve. The fourth point is a “Straight Point,” similar to the “Smooth Point” but allowing the handles to have different lengths. The final point, like the first, is an “Auto Point.”

---

## Exercises

On the other side of the paper are some rectangular and polar graphs and other diagrams. Try to recreate them. A good place to start for the graphs would be creating blank grids (lots of equally-spaced lines for the rectangular graphs, lots of circles and lines for the polar graphs, changing the line styles here and there, and an opportunity to try out the rotation and alignment mechanisms in the “Drawing Tools Format” tab of the ribbon). For the graphs, you may want to use a Sketchpad graph as a template and it may save time if you make use of symmetry when drawing the curves with the curve tool in Word.



2002 AP<sup>®</sup> CALCULUS BC FREE-RESPONSE QUESTIONS (Form B)

