

POLAR COORDINATES - INTERESTING GRAPHS, PART 3

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Since I started playing with these graphs, and Matlab is a pretty cool program, I made a few more graphs, which you will not need ... but they are really nice (in fact, would you have thought that you can describe with a function the figure eight? (8, that is)

again, you won't need to study these - I only put them here for enjoyment (after a hard day's work, some fun is needed, right?)

Enjoy!

(go to next page - the pictures are pretty big, they are one per page)

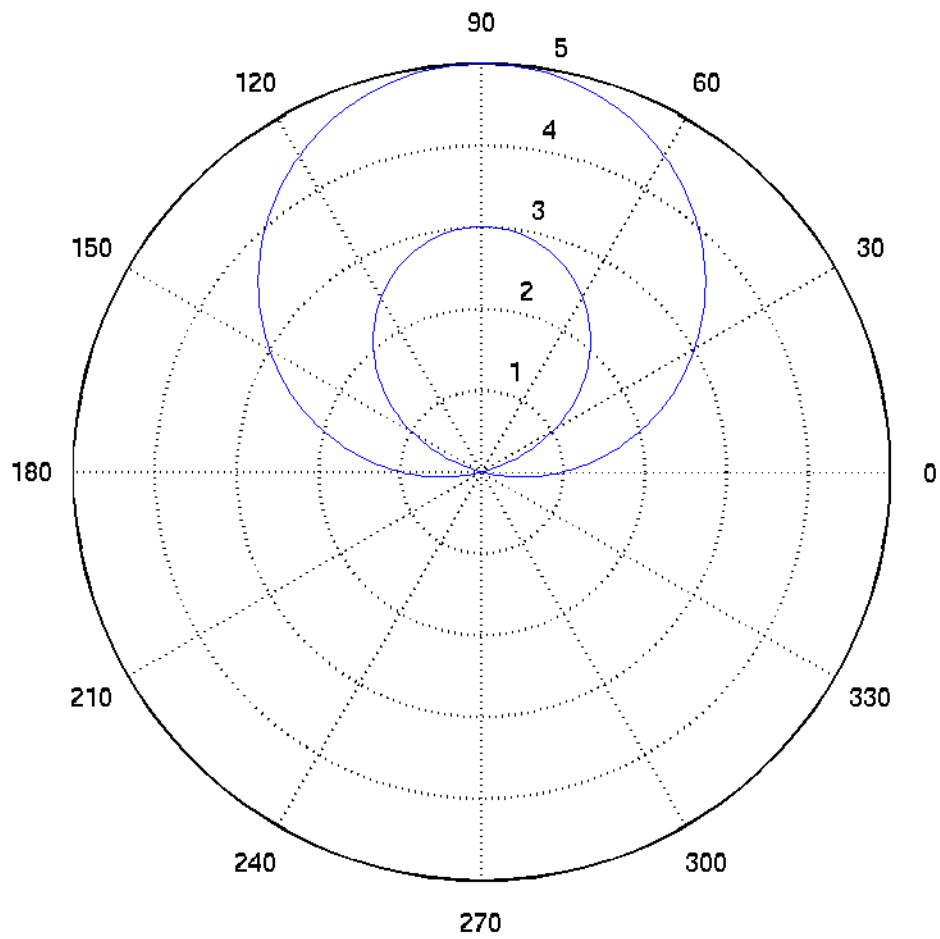


FIGURE 1. $r = 1 + 4 \sin(a)$ - we saw this already, it's the loop inside the loop

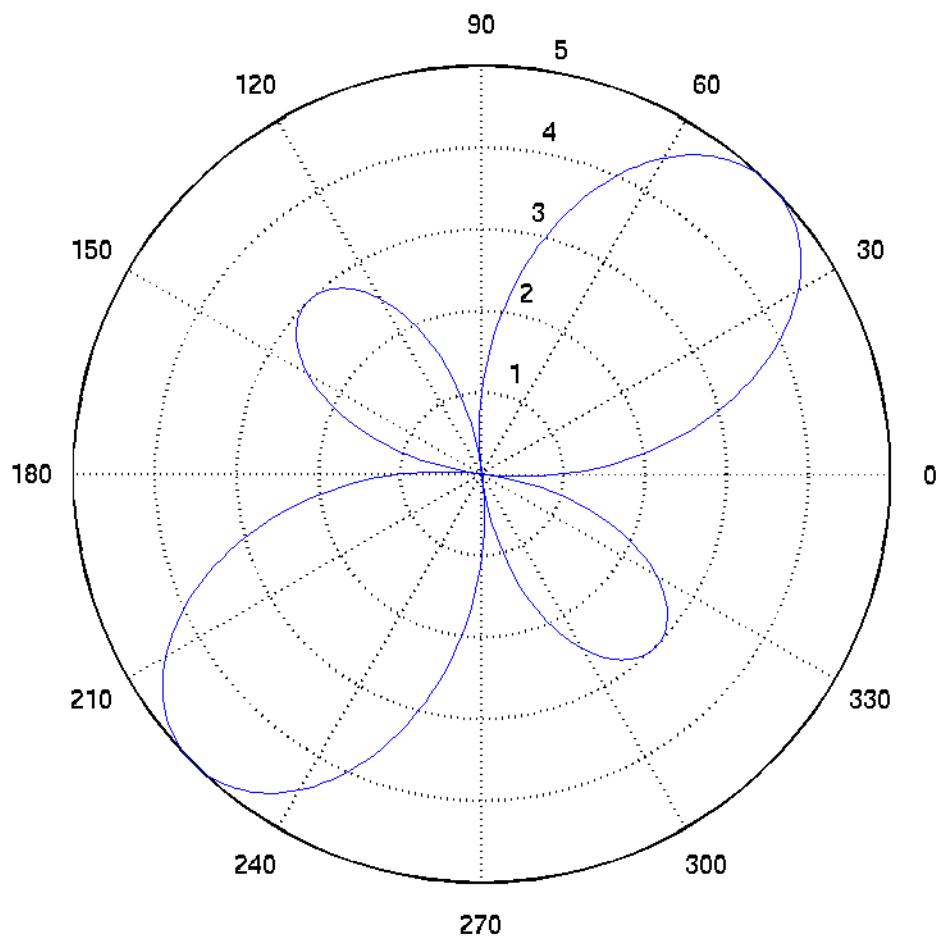


FIGURE 2. $r = 1 + 4 \sin(2\theta)$ - we change the angle to double the angle and the loop goes out ...

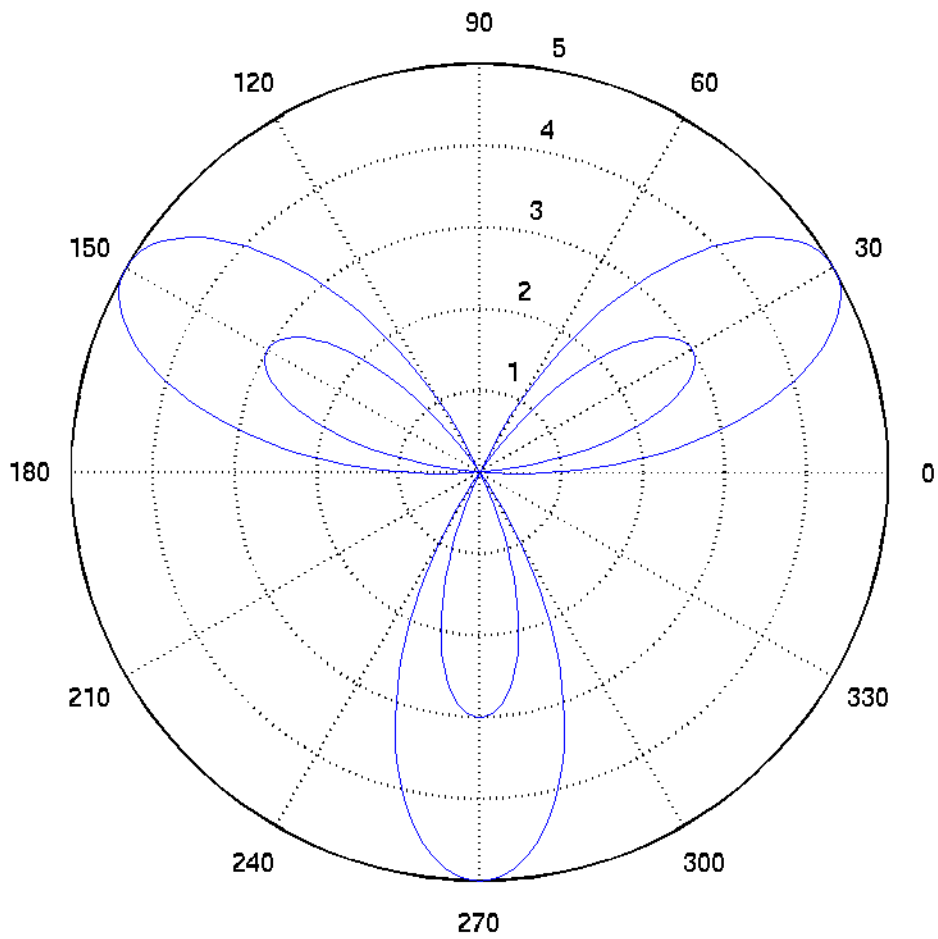
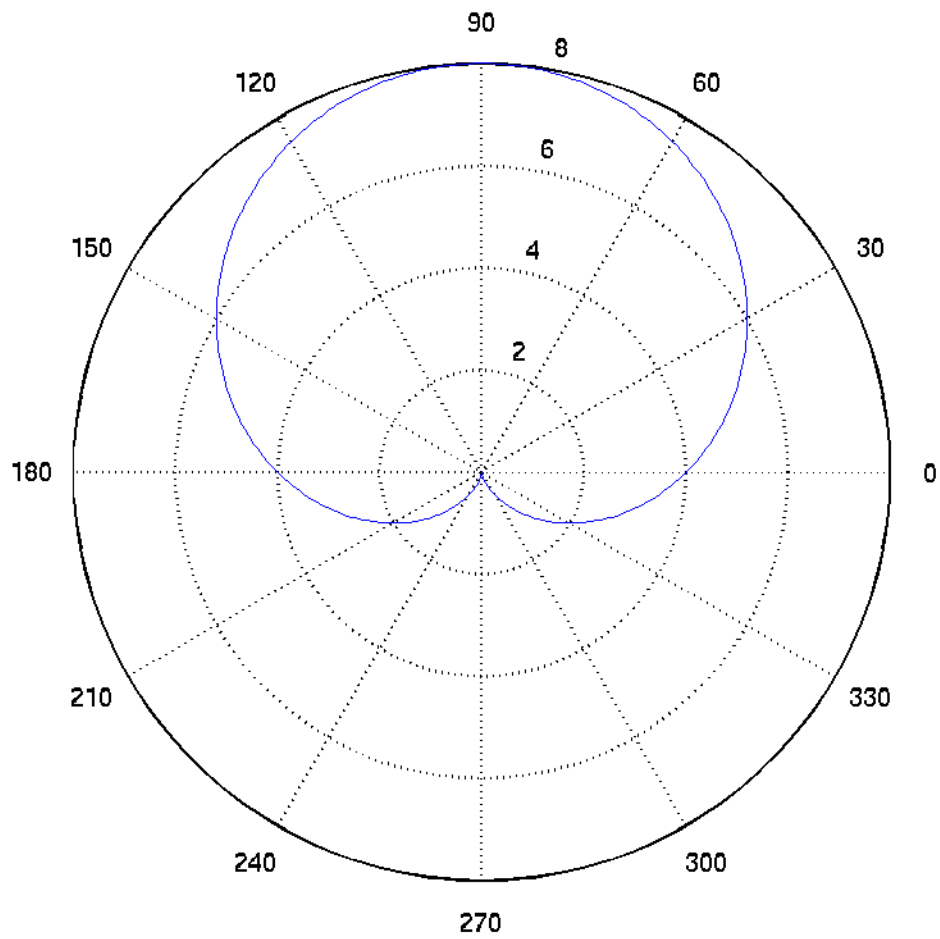


FIGURE 3. $r = 1 + 4 \sin(3a) - \dots$ and then to triple the angle! and loop goes back in

FIGURE 4. $r = 4 + 4 \sin(\theta)$ - the cardioid

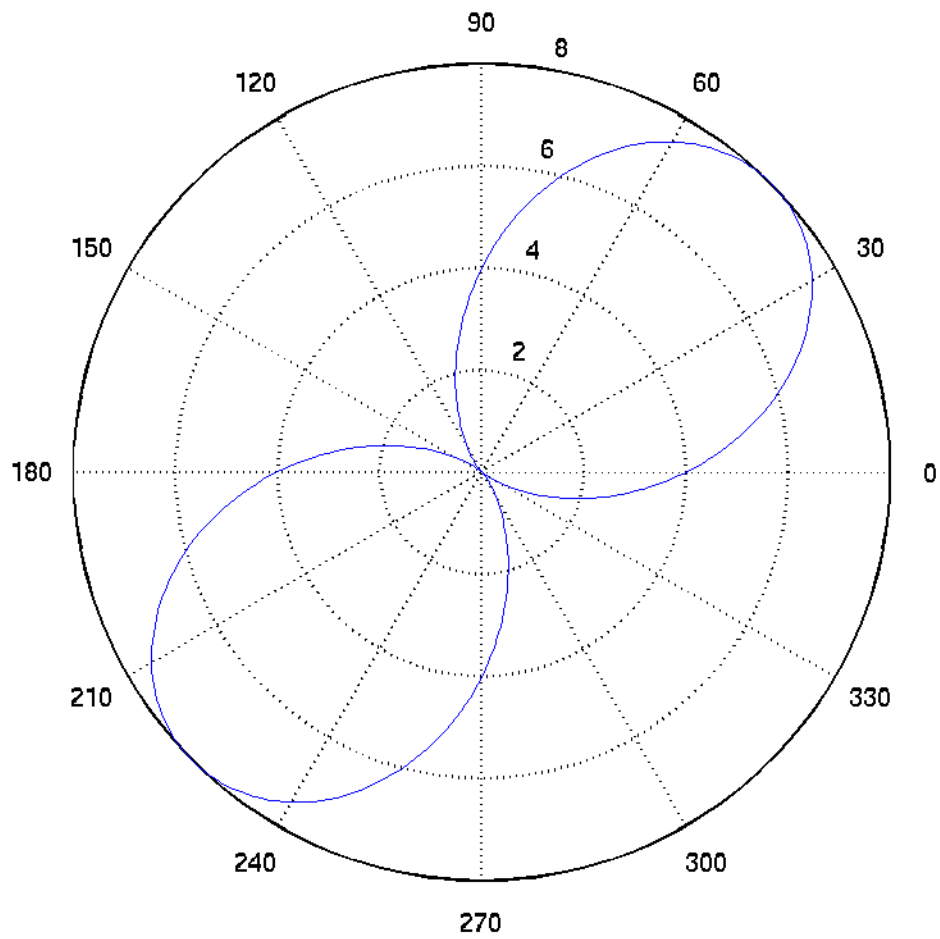
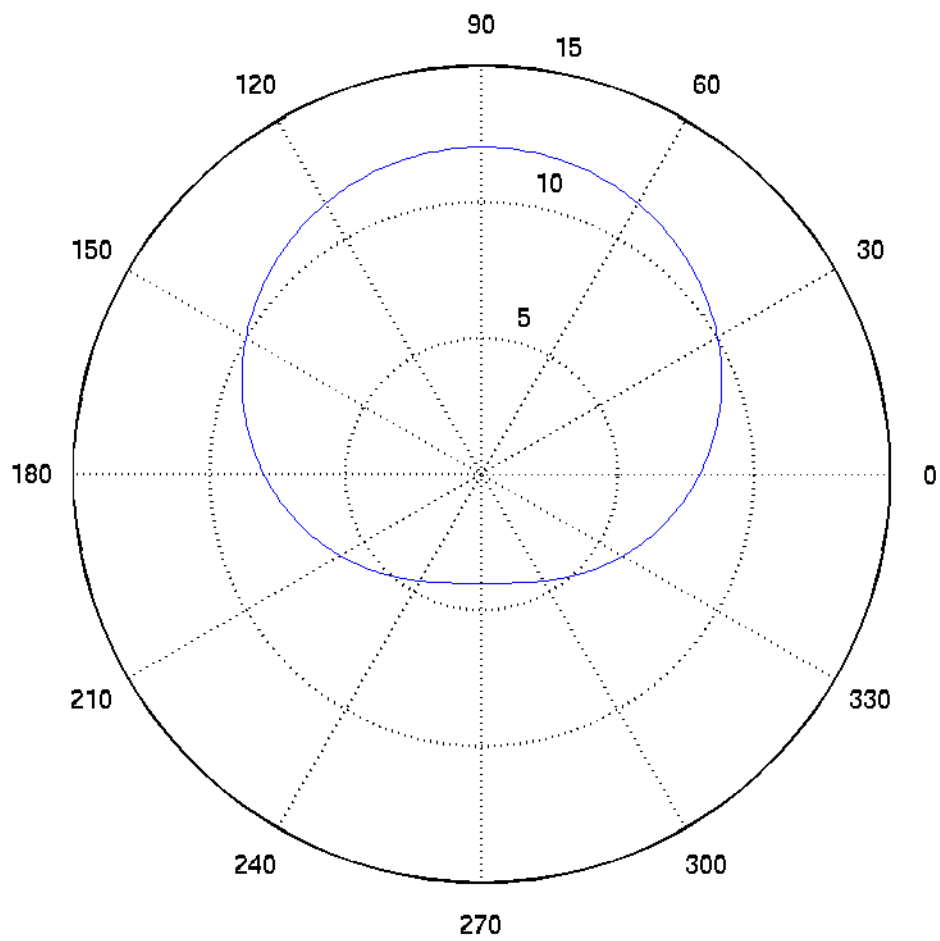


FIGURE 5. $r = 4 + 4 \sin(2a)$ - and again we double the angle ... nice, isn't it? two sharp points, and we get the 8

FIGURE 6. $r = 8 + 4 \sin(\theta)$ - the "not so sharp point" cardioid

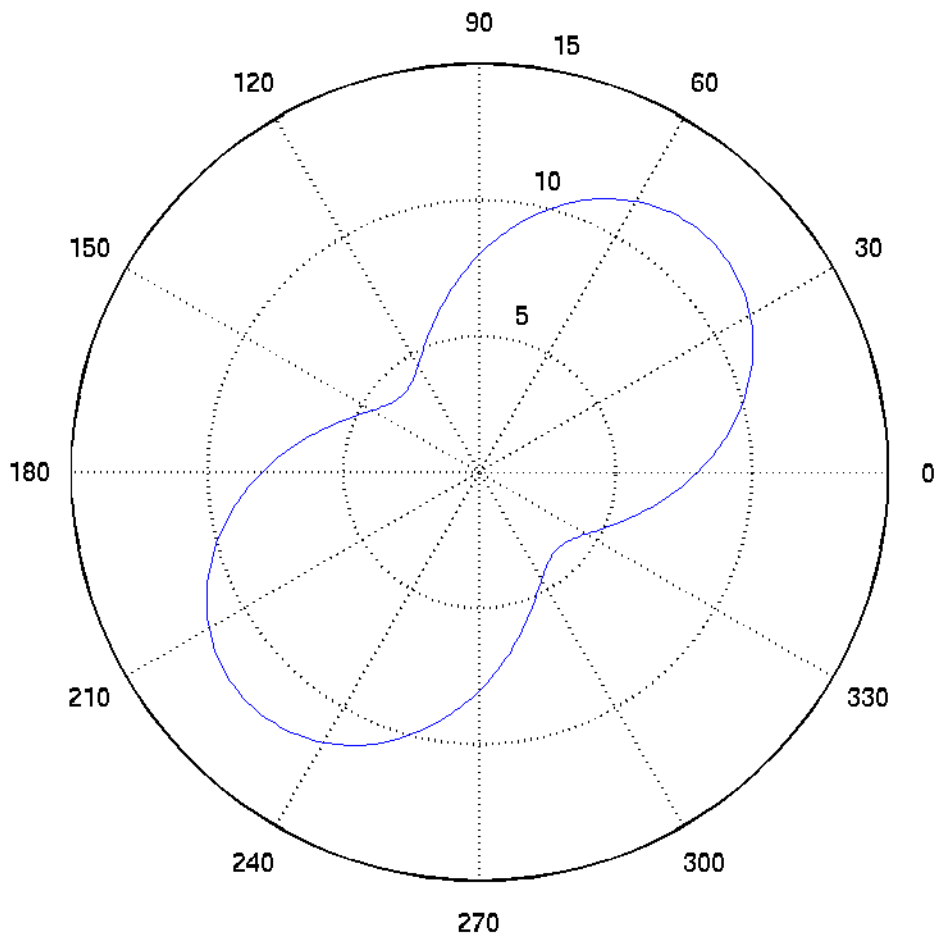


FIGURE 7. $r = 8 + 4 \sin(2a)$ - and, yet again, double the angle and "not so sharp points" (two of them) ...

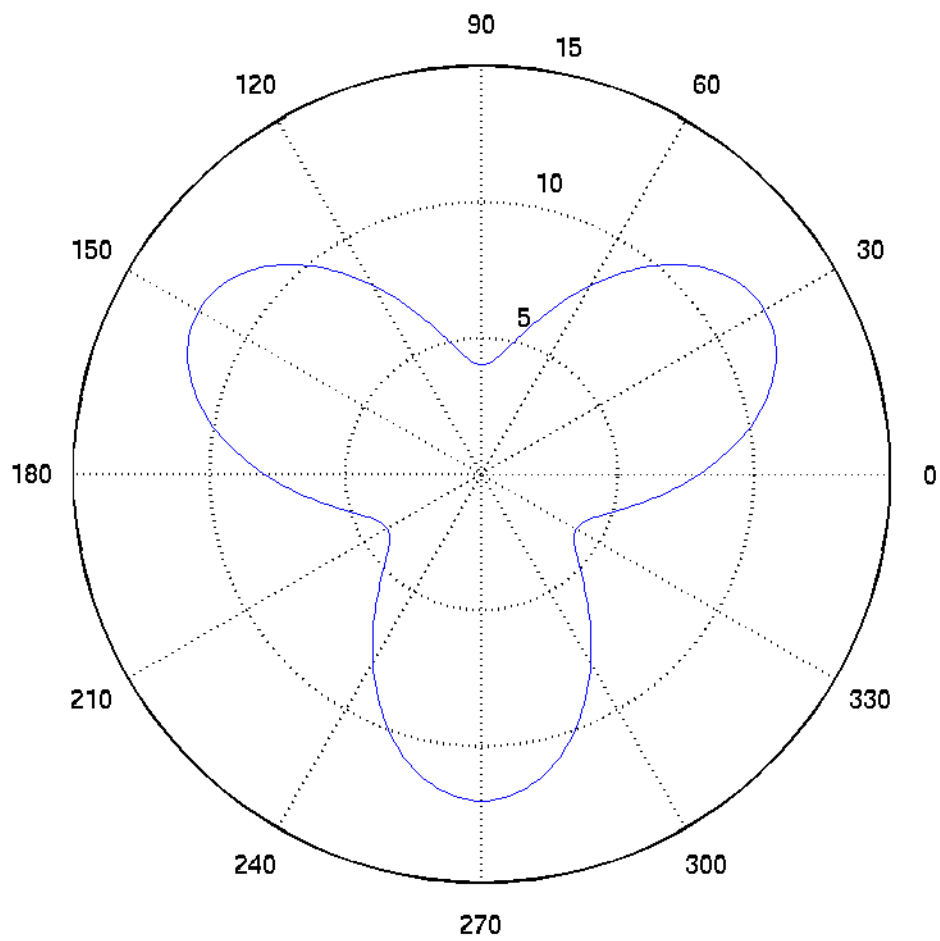


FIGURE 8. $r = 8 + 4 \sin(3\theta)$ - ... and triple the angle, so three "not so sharp points"