LaTeX Assignment 1

Math 195W

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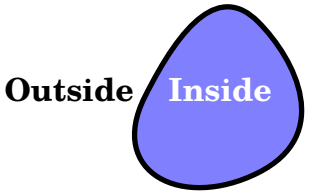
Problem 1.

Prove the following statement:

> If C is a simple closed curve or contour, then C has a bounded inside and unbounded outside.

Proof. I mean, just look! Trivial. ◇



As one can see, this concept does not need any further investigation because it is so obvious and definitely does not necessitate a complicated proof at all!

$$\frac{1}{2} < \left\lfloor \operatorname{mod}\left(\left\lfloor \frac{y}{17} \right\rfloor 2^{-17\lfloor x \rfloor - \operatorname{mod}(\lfloor y \rfloor, 17))}, 2 \right) \right\rfloor \tag{1}$$

$$\mathcal{R}_n(\mathcal{F}) = \mathbb{E}_\varepsilon \left[\sup_{f \in \mathcal{F}} \frac{1}{n} \sum_{i=1}^{n} \varepsilon_i f(x_i) \right].$$

$$f(t) = \frac{\Gamma\left(\frac{\nu+1}{2}\right)}{\sqrt{\nu\pi}\,\Gamma\left(\frac{\nu}{2}\right)} \left(1 + \frac{t^2}{\nu}\right)^{-\frac{\nu+1}{2}}.$$

If you plot equation 1 which is Tupper's Self Referential Formula and go

to

$$
\begin{aligned}
y = \; & 960\ 939\ 379\ 918\ 958\ 884\ 971\ 672\ 962\ 127 \\
& 852\ 754\ 715\ 004\ 339\ 660\ 129\ 306\ 651\ 505 \\
& 519\ 271\ 702\ 802\ 395\ 266\ 424\ 689\ 642\ 842 \\
& 174\ 350\ 718\ 121\ 267\ 153\ 782\ 770\ 623\ 355 \\
& 993\ 237\ 280\ 874\ 144\ 307\ 891\ 325\ 963\ 941 \\
& 337\ 723\ 487\ 857\ 735\ 749\ 823\ 926\ 629\ 715 \\
& 517\ 173\ 716\ 995\ 165\ 232\ 890\ 538\ 221\ 612 \\
& 403\ 238\ 855\ 866\ 184\ 013\ 235\ 585\ 136\ 048 \\
& 828\ 693\ 337\ 902\ 491\ 454\ 229\ 288\ 667\ 081 \\
& 096\ 184\ 496\ 091\ 705\ 183\ 454\ 067\ 827\ 731 \\
& 551\ 705\ 405\ 381\ 627\ 380\ 967\ 602\ 565\ 625 \\
& 016\ 981\ 482\ 083\ 418\ 783\ 163\ 849\ 115\ 590 \\
& 225\ 610\ 003\ 652\ 351\ 370\ 343\ 874\ 461\ 848 \\
& 378\ 737\ 238\ 198\ 224\ 849\ 863\ 465\ 033\ 159 \\
& 410\ 054\ 974\ 700\ 593\ 138\ 339\ 226\ 497\ 249 \\
& 461\ 751\ 545\ 728\ 366\ 702\ 369\ 745\ 461\ 014 \\
& 655\ 997\ 933\ 798\ 537\ 483\ 143\ 786\ 841\ 806 \\
& 593\ 422\ 227\ 898\ 388\ 722\ 980\ 000\ 748\ 404 \\
& 719
\end{aligned}
$$

you will see the formula itself plotted.