

```
In[337]:= N[areaPolygon@{

$$\frac{i + (-1)^{3/70} - (-1)^{47/70} + (-1)^{53/70} - (-1)^{57/70} + (-1)^{13/14}}{2 \left( \cos\left[\frac{\pi}{70}\right] - \cos\left[\frac{13\pi}{70}\right] + \sin\left[\frac{2\pi}{35}\right] + \sin\left[\frac{4\pi}{35}\right] \right)},$$

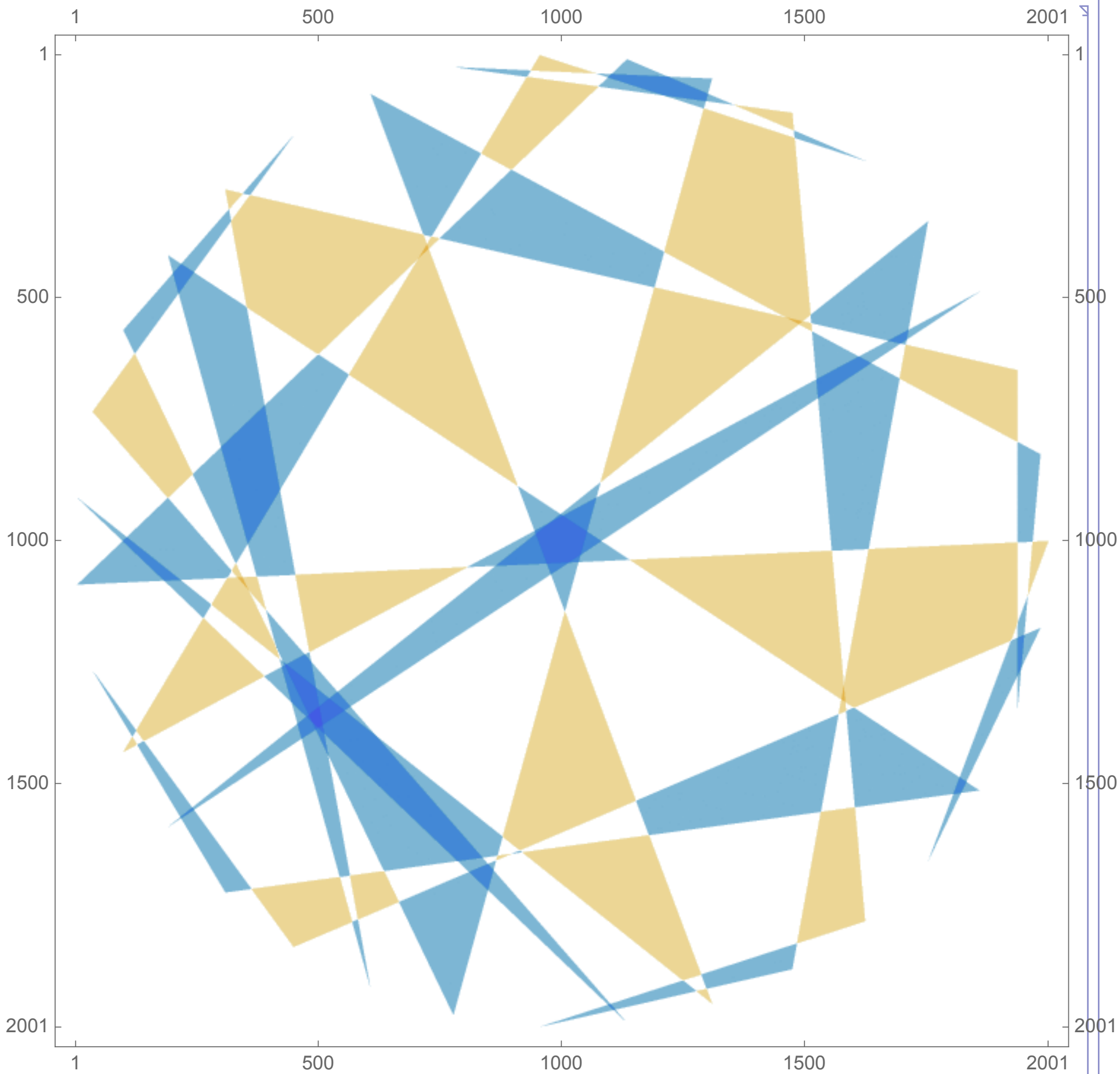

$$\left( 4 \left( \frac{1}{2} \left( (-1)^{1/14} + (-1)^{1/10} + (-1)^{23/70} + (-1)^{5/14} \right) - \frac{1}{4} (-1)^{4/35} (-1 + (-1)^{22/35}) \right) \left( \sqrt{10 - 2\sqrt{5}} \cos\left[\frac{8\pi}{35}\right] - (1 + \sqrt{5}) \sin\left[\frac{8\pi}{35}\right] \right) \right) /$$


$$\left( 4 \cos\left[\frac{\pi}{70}\right] + (1 + \sqrt{5}) \cos\left[\frac{17\pi}{70}\right] - (-3 + \sqrt{5}) \sin\left[\frac{4\pi}{35}\right] + \sqrt{10 - 2\sqrt{5}} \left( \cos\left[\frac{4\pi}{35}\right] + \sin\left[\frac{17\pi}{70}\right] \right) \right),$$


$$- \left( \left( 4 \left( \frac{1}{2} (-1)^{13/14} (1 + (-1)^{1/7}) \left( (-1)^{1/5} + (-1)^{8/35} \right) + \frac{1}{4} (-1)^{2/35} (-1 + (-1)^{4/7}) \right) \left( \sqrt{10 - 2\sqrt{5}} \cos\left[\frac{8\pi}{35}\right] - (1 + \sqrt{5}) \sin\left[\frac{8\pi}{35}\right] \right) \right) /$$

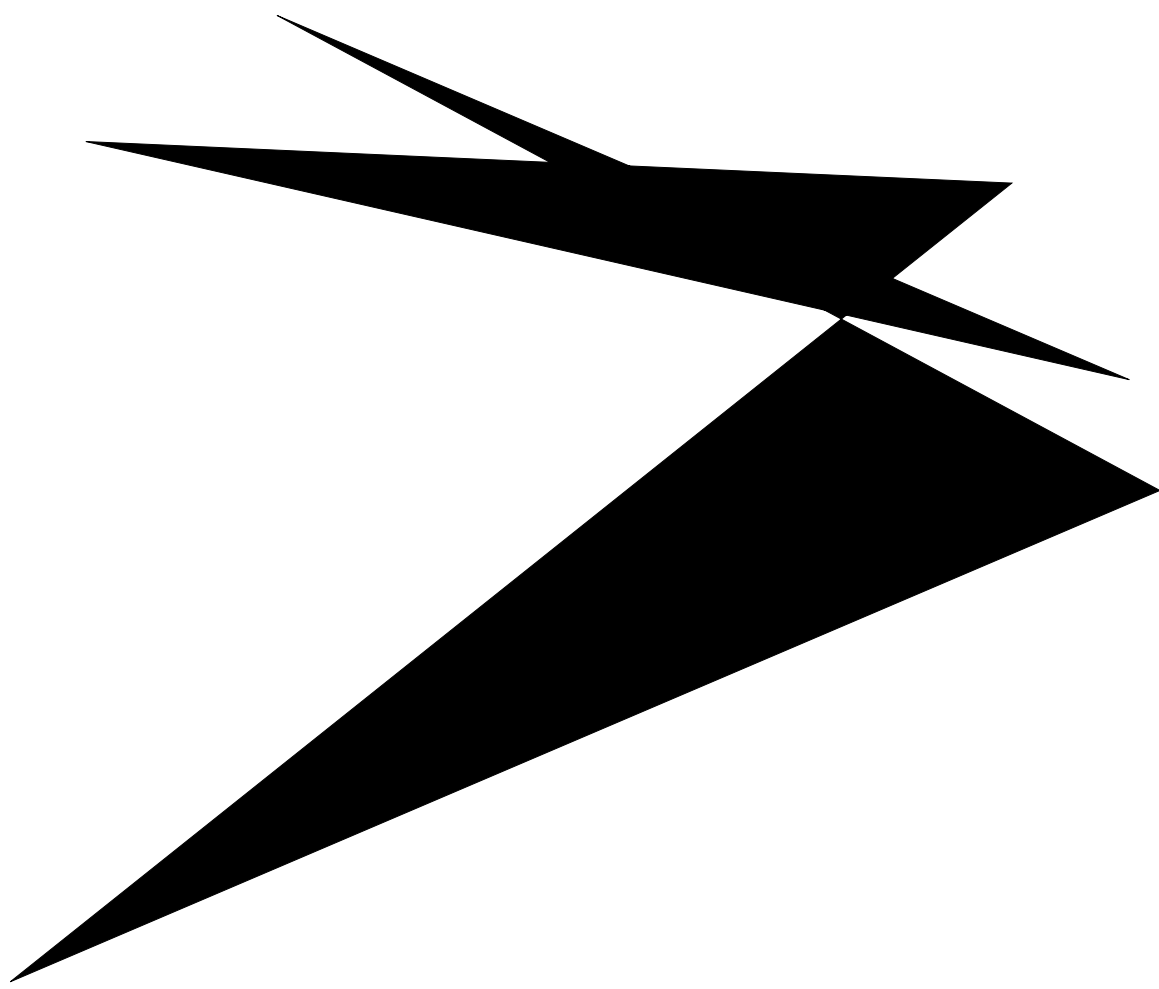

$$\left( \left( 1 + \sqrt{5} + 4 \cos\left[\frac{8\pi}{35}\right] \right) \left( \cos\left[\frac{9\pi}{70}\right] - \sin\left[\frac{2\pi}{35}\right] \right) + \left( \cos\left[\frac{2\pi}{35}\right] + \sin\left[\frac{9\pi}{70}\right] \right) \left( \sqrt{10 - 2\sqrt{5}} + 4 \sin\left[\frac{8\pi}{35}\right] \right) \right) \right\},$$

799]
```



```
I^(4{{1, 11}, {2, 13}, {4, 21}}/35)
{{(-1)^(2/35), (-1)^(22/35)}, {(-1)^(4/35), (-1)^(26/35)}, {(-1)^(8/35), -(-1)^(1/5)}}
```

```
Graphics[
Polygon[
ReIm@Flatten@{{(-1)^(2/35), (-1)^(22/35)}, {(-1)^(4/35), (-1)^(26/35)},
{(-1)^(8/35), -(-1)^(1/5)}}]]
```



```
Out[337]= -0.000134225039341101245153565129148710789232383722340096400869191711577249875259105207499912025909349831577336317398866665381886016984917921770591086620423016460873178172054024871080875732863271576388797580266713361018111426478098166290839805245888821280667047767385205448784815798191006275143549526702139252870141269703079545945913016152024026563530870269970226226019080235574111571250798665894892541529196542966378896886096705961565201158019335914918272715094402596912398634080211053273482744322734406522467927688609594622347323408394885100353123873364274787912756109688474412916281140998557790458899274808724747688313614522518903861527706217172911455077844199861891112587051384130404333084906924420488943675524185107062052617197631791494051113498688732501893506054679104031886103847887876601869996328114
```

```
In[338]:= RootApproximant@-%
Out[338]= Root[5 316 527 372 659 441 - 295 094 548 170 609 924 503 536 #1^2 +
7 983 127 799 736 825 622 853 120 #1^4 - 72 062 262 732 640 087 452 332 032 #1^6 +
273 613 143 678 134 171 227 258 880 #1^8 -
418 918 704 162 582 972 509 192 192 #1^10 +
201 727 775 437 446 036 196 425 728 #1^12 -
44 786 681 857 515 836 162 441 216 #1^14 +
5 279 635 669 088 649 917 497 344 #1^16 -
343 040 250 304 717 832 323 072 #1^18 + 11 802 500 384 086 915 284 992 #1^20 -
182 556 260 829 602 250 752 #1^22 + 675 821 419 082 285 056 #1^24 &, 13]
```

```
In[339]:= N@-%
Out[339]= -0.0001342250393411013
```