

# Laplace Transform Pairs (4A)

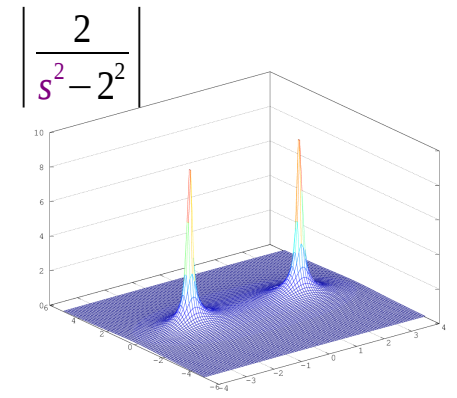
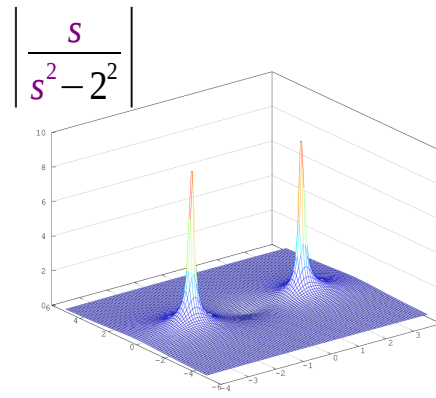
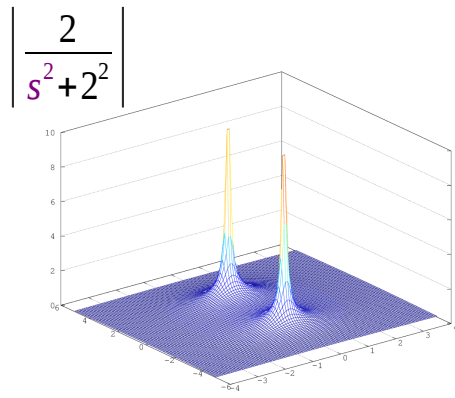
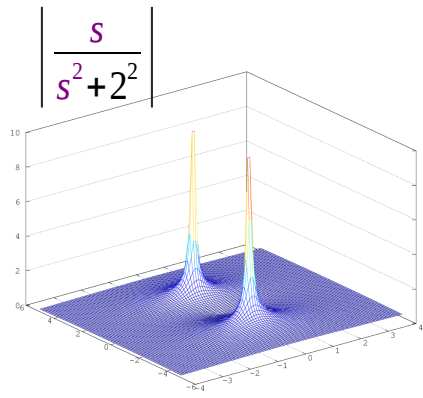
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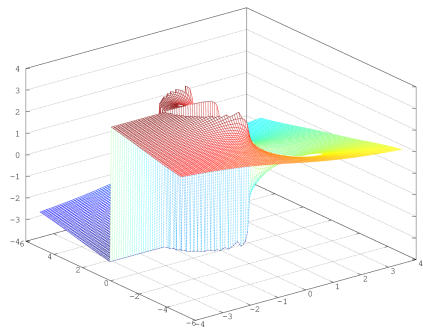
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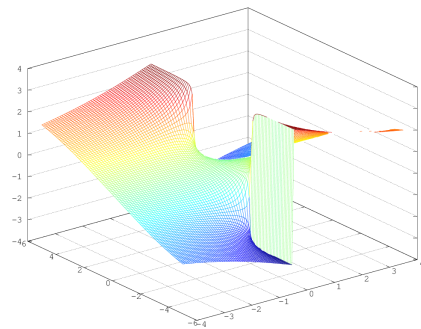
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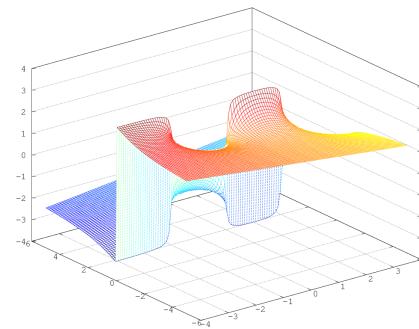
$$\arg \left\{ \frac{s}{s^2+2^2} \right\}$$



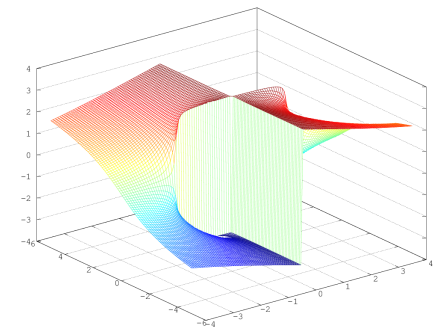
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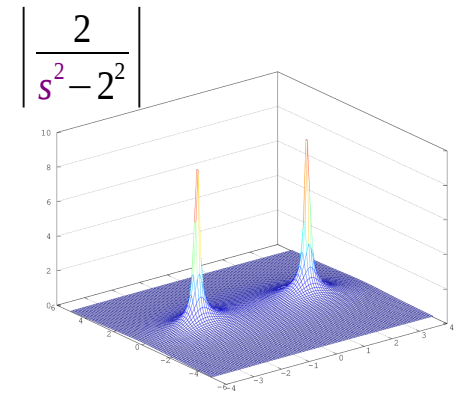
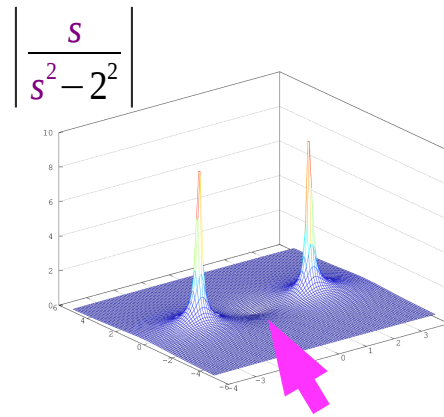
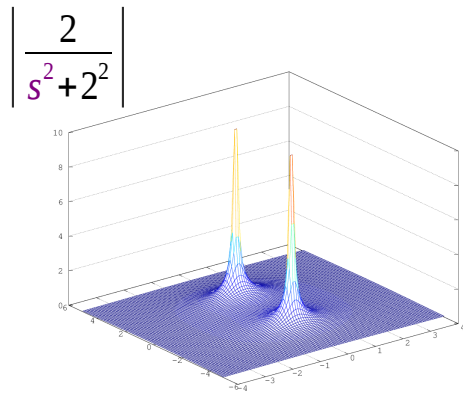
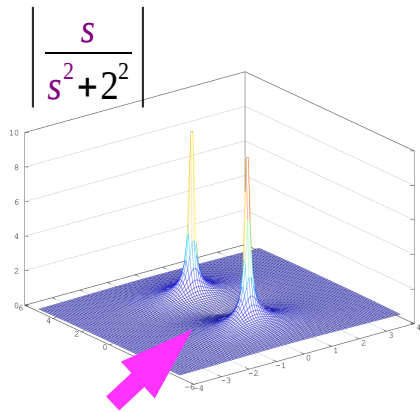


$$\arg \left\{ \frac{s}{s^2-2^2} \right\}$$

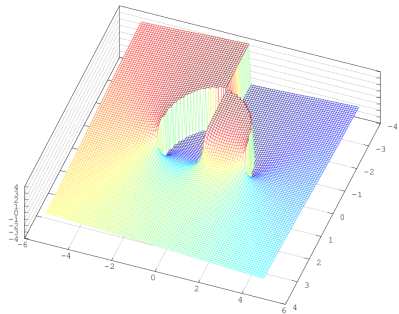


$$\arg \left\{ \frac{2}{s^2-2^2} \right\}$$

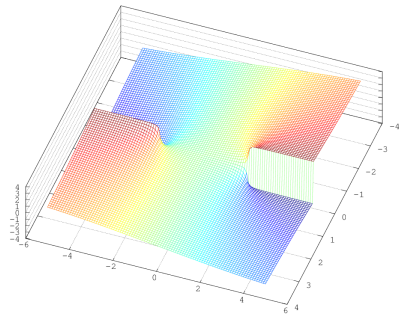




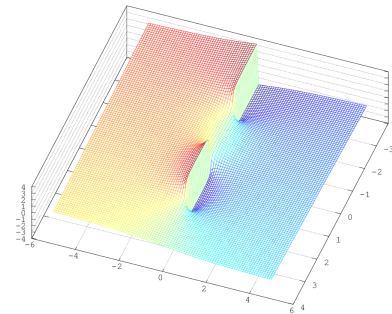
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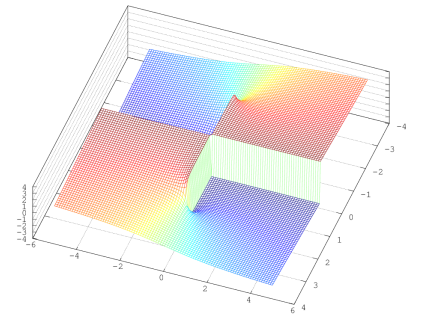
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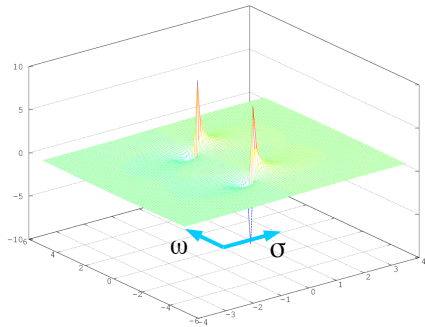
$$\arg \left\{ \frac{s}{s^2-2^2} \right\}$$



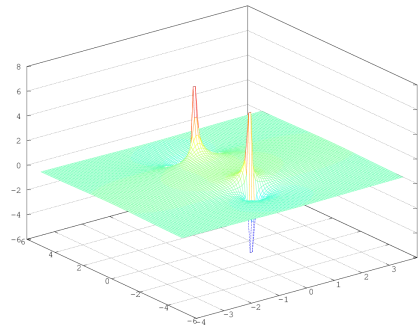
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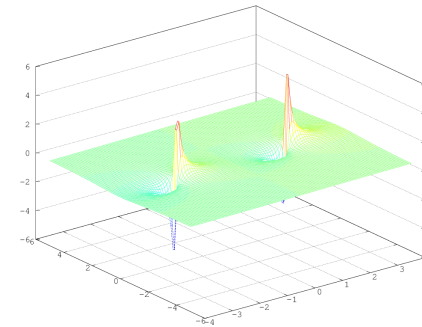
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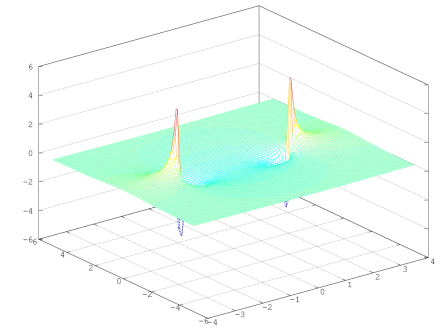
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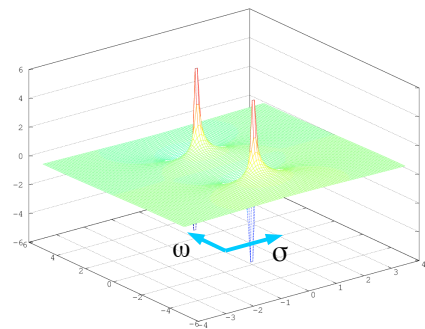
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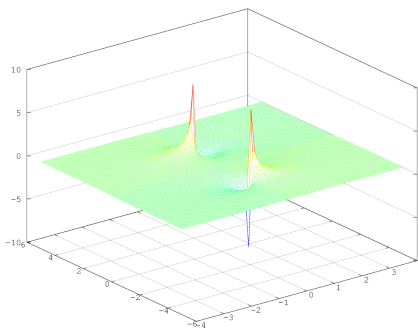
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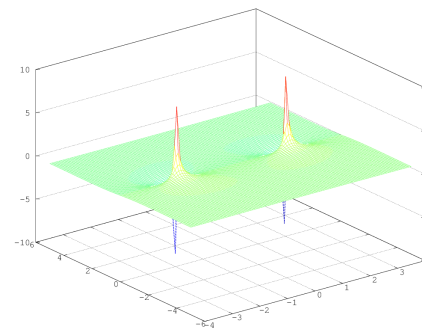
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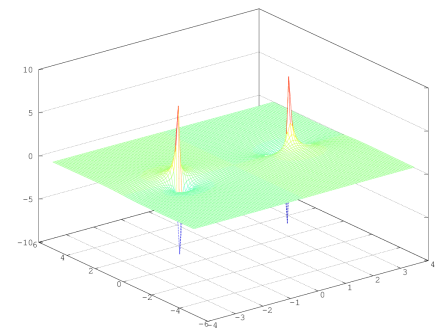
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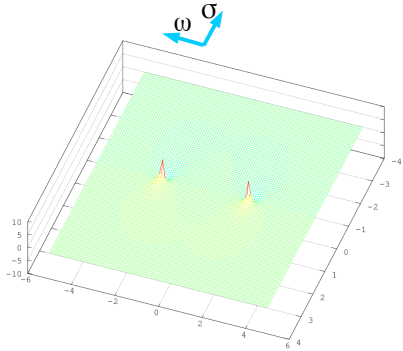
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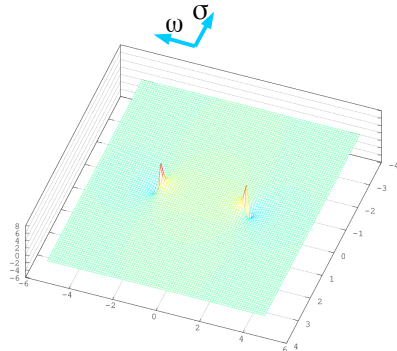
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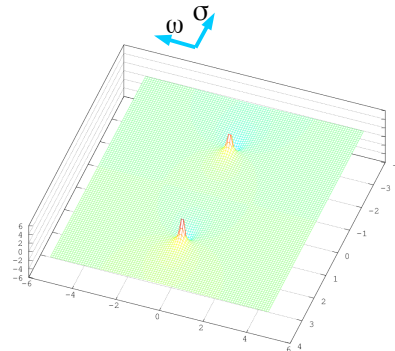
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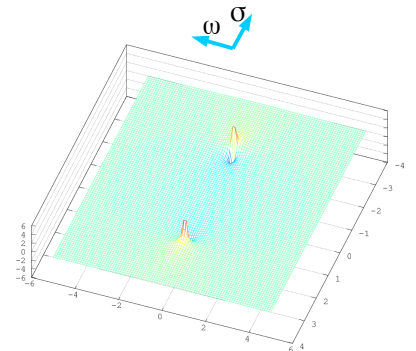
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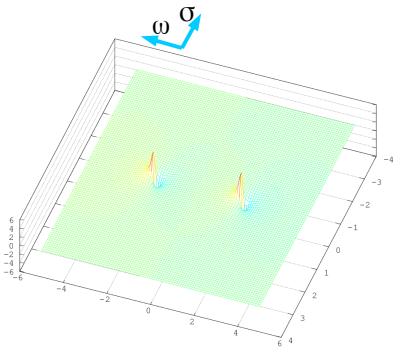
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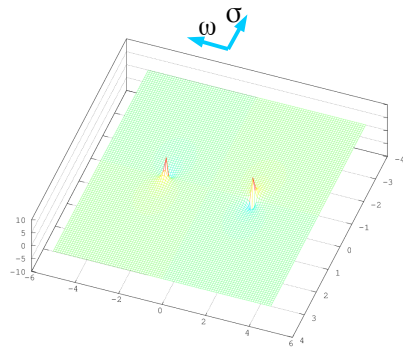
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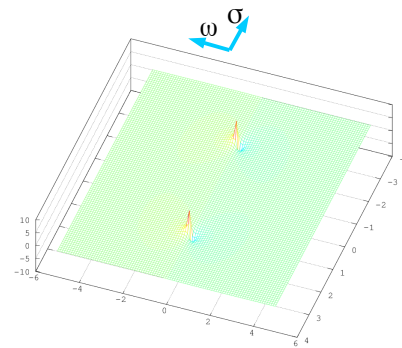
$$\Im \left\{ \frac{s}{s^2+2^2} \right\}$$



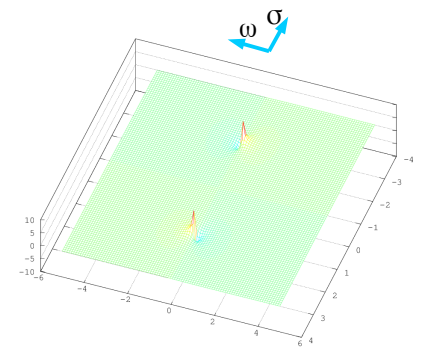
$$\Im \left\{ \frac{2}{s^2+2^2} \right\}$$



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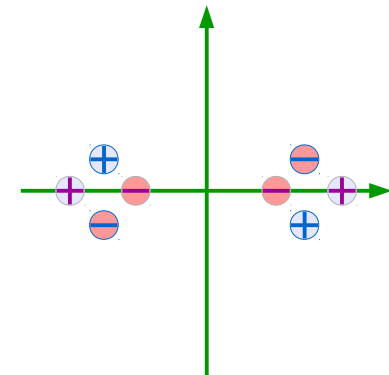
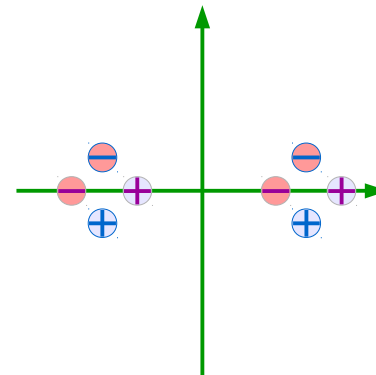
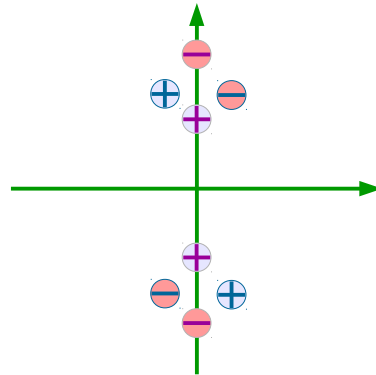
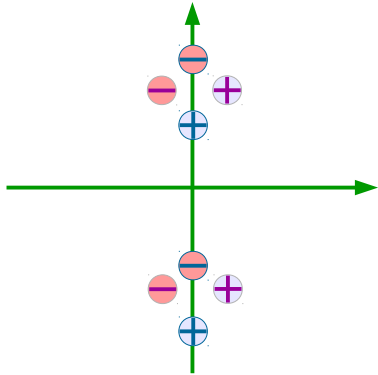


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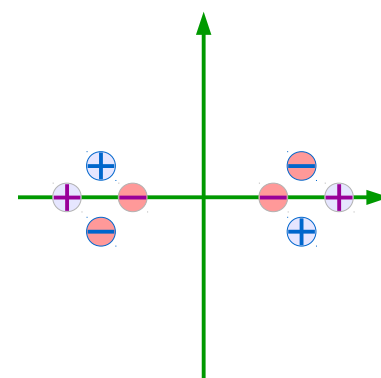
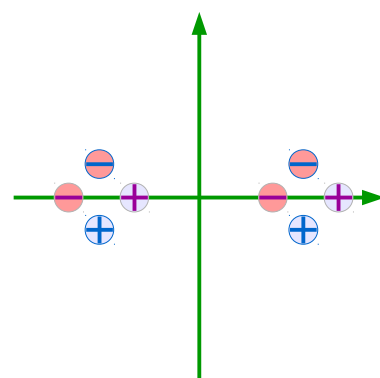
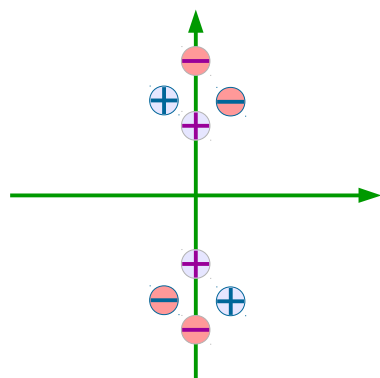
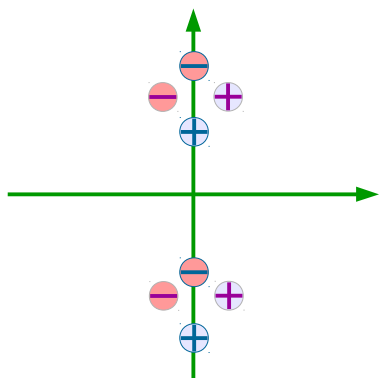
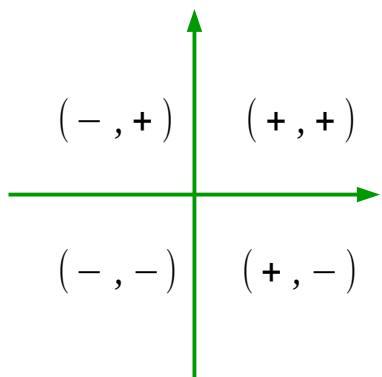


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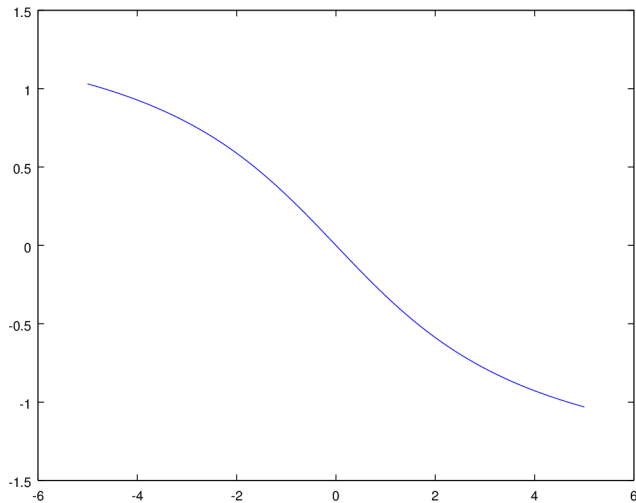
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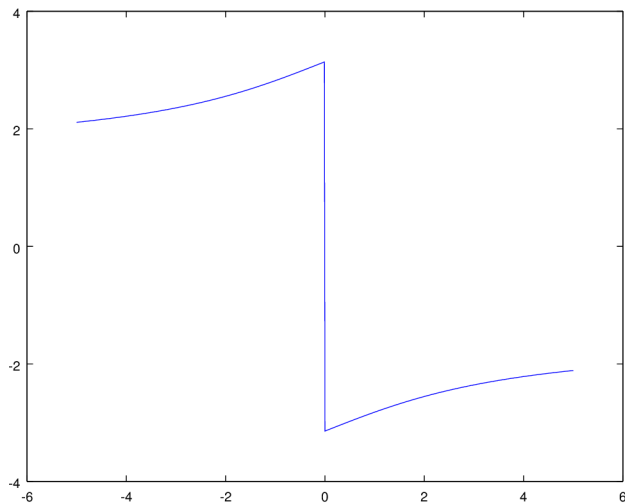
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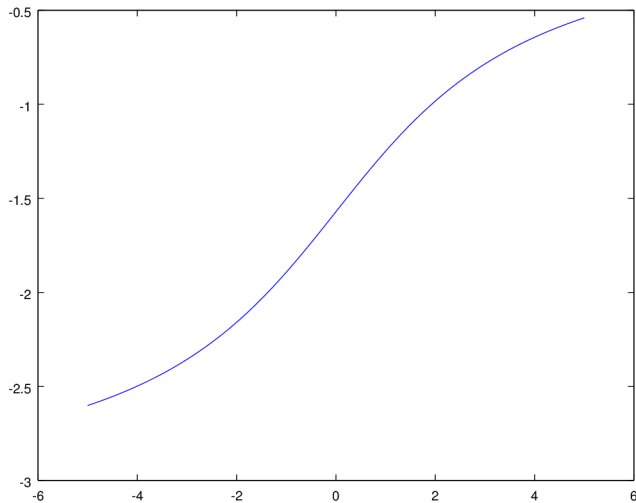




```
y = linspace(-5, 5, 1001);  
s = 3 + i*y;  
z = 1 ./ s;  
  
plot(y, arg(z));
```

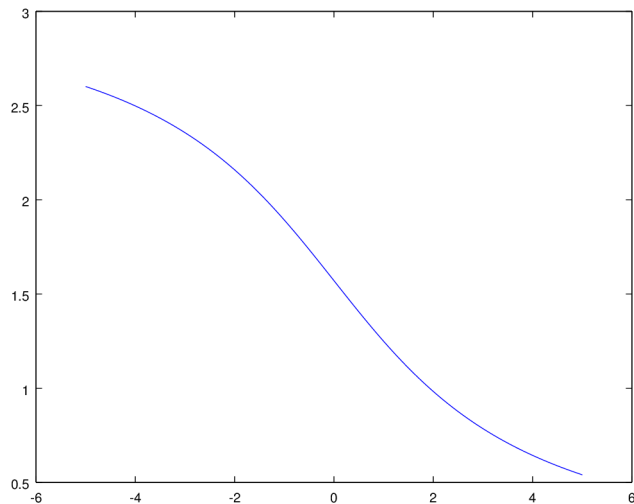


```
y = linspace(-5, 5, 1001);  
s = -3 + i*y;  
z = 1 ./ s;  
  
plot(y, arg(z));
```



```
x = linspace(-5, 5, 1001);  
s = x + i*3;  
z = 1 ./ s;
```

```
plot(x, arg(z));
```



```
x = linspace(-5, 5, 1001);  
s = x - i*3;  
z = 1 ./ s;
```

```
plot(x, arg(z));
```

## References

- [1] <http://en.wikipedia.org/>
- [2] <http://planetmath.org/>
- [3] M.L. Boas, “Mathematical Methods in the Physical Sciences”
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- [5] D. G. Zill, W. S. Wright, “Advanced Engineering Mathematics”
- [6] T. J. Cavicchi, “Digital Signal Processing”
- [7] F. Waleffe, Math 321 Notes, UW 2012/12/11
- [8] J. Nearing, University of Miami
- [9] <http://scipp.ucsc.edu/~haber/ph116A/ComplexFunBranchTheory.pdf>