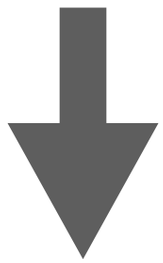
Frequency Response Techniques in Feedback Control Systems

https://github.com/mertankarali/Lecture-Notes/tree/master/METU-EE302/Frequency_Response

Part I: Polar Plot

Part II: Nyquist Plot

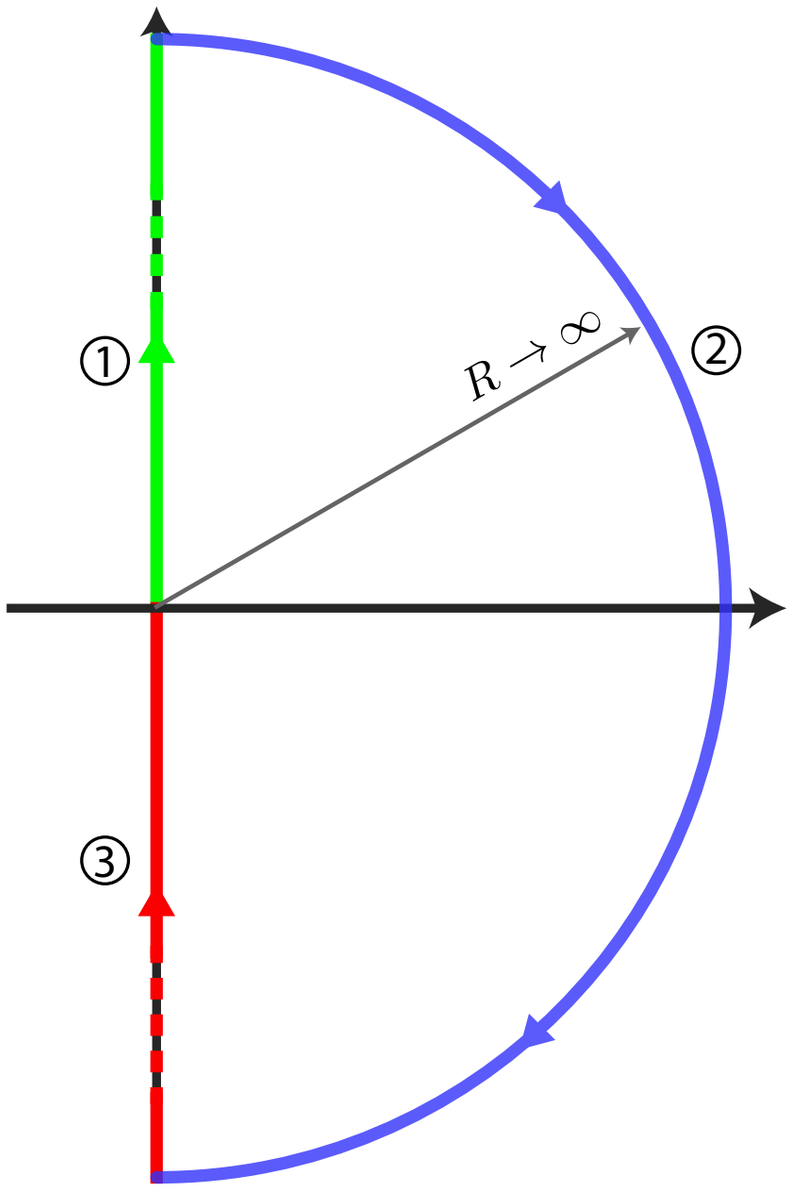
Part III: Nyquist Stability



Part IV: Nyquist Stability - OL Poles on the $j\omega$ axis

$G(s)$: no poles/zeros on $j\omega$ axis

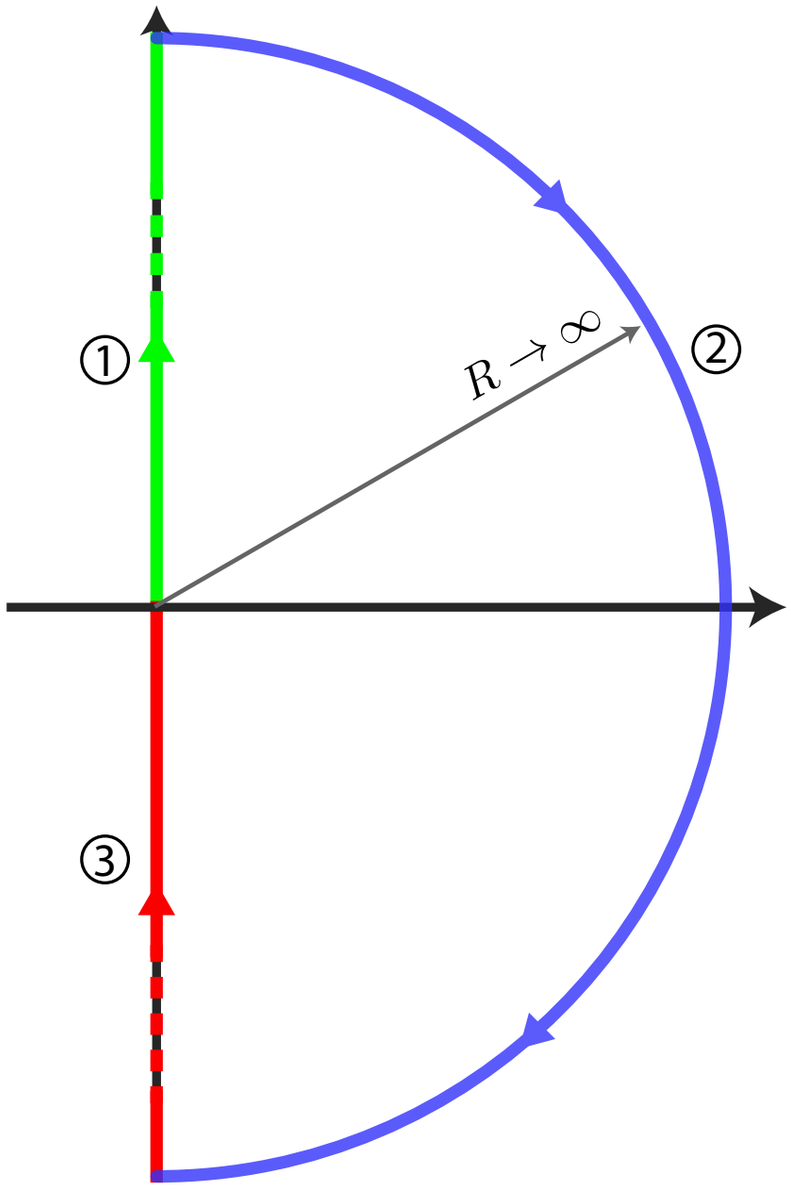
Nyquist Contour



$G(s)$: no poles/zeros on $j\omega$ axis

$G(s)$: pole(s) at origin

Nyquist Contour



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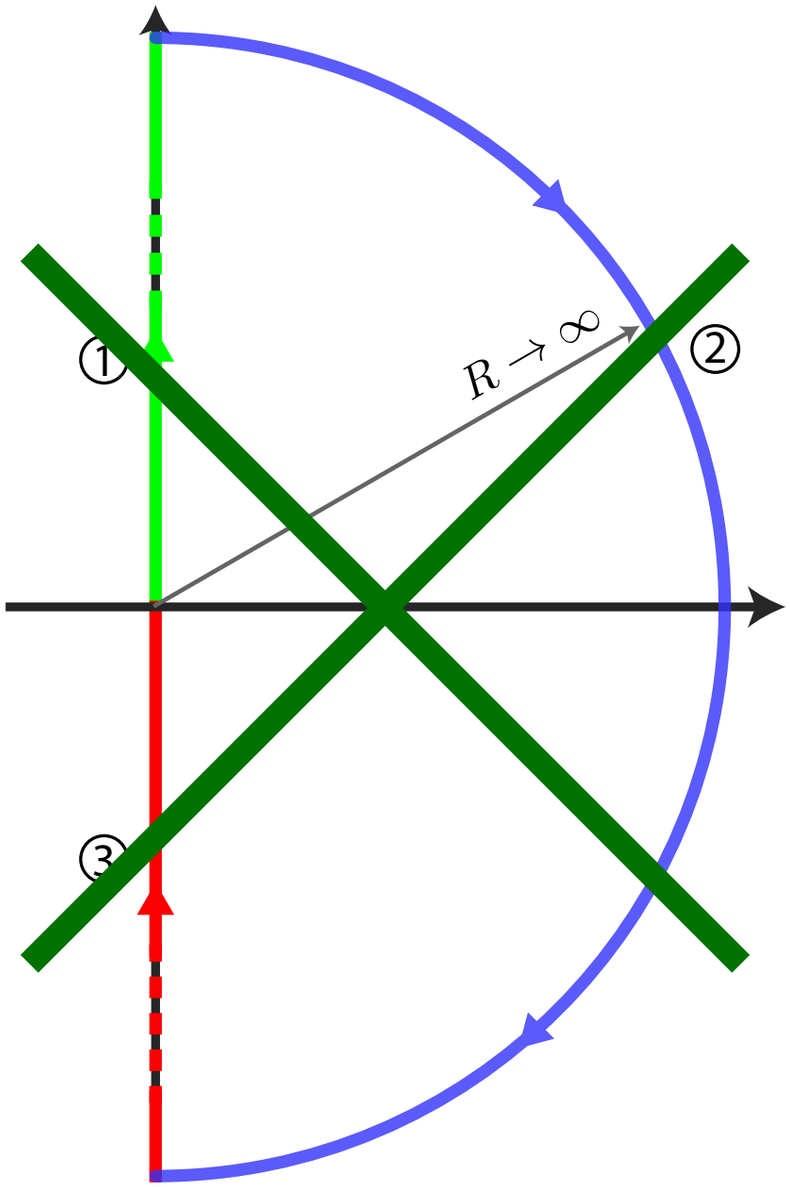
Nyquist Contour



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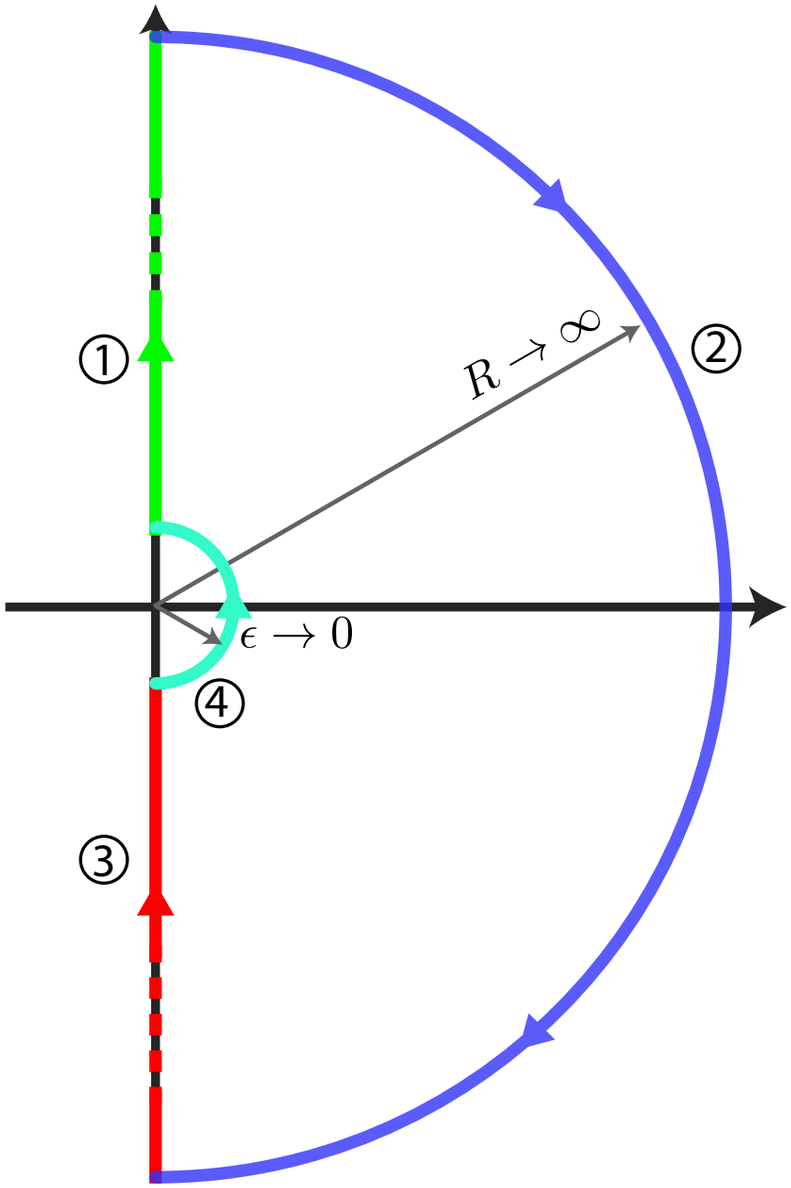

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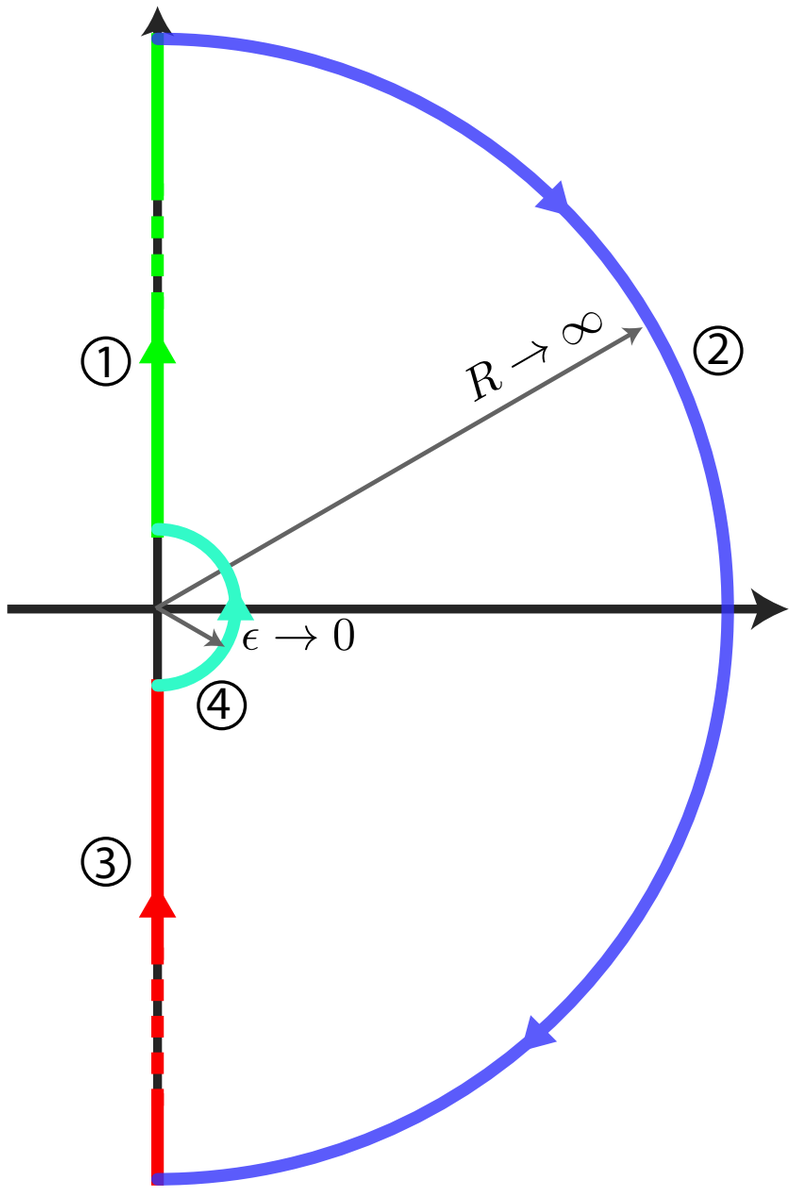
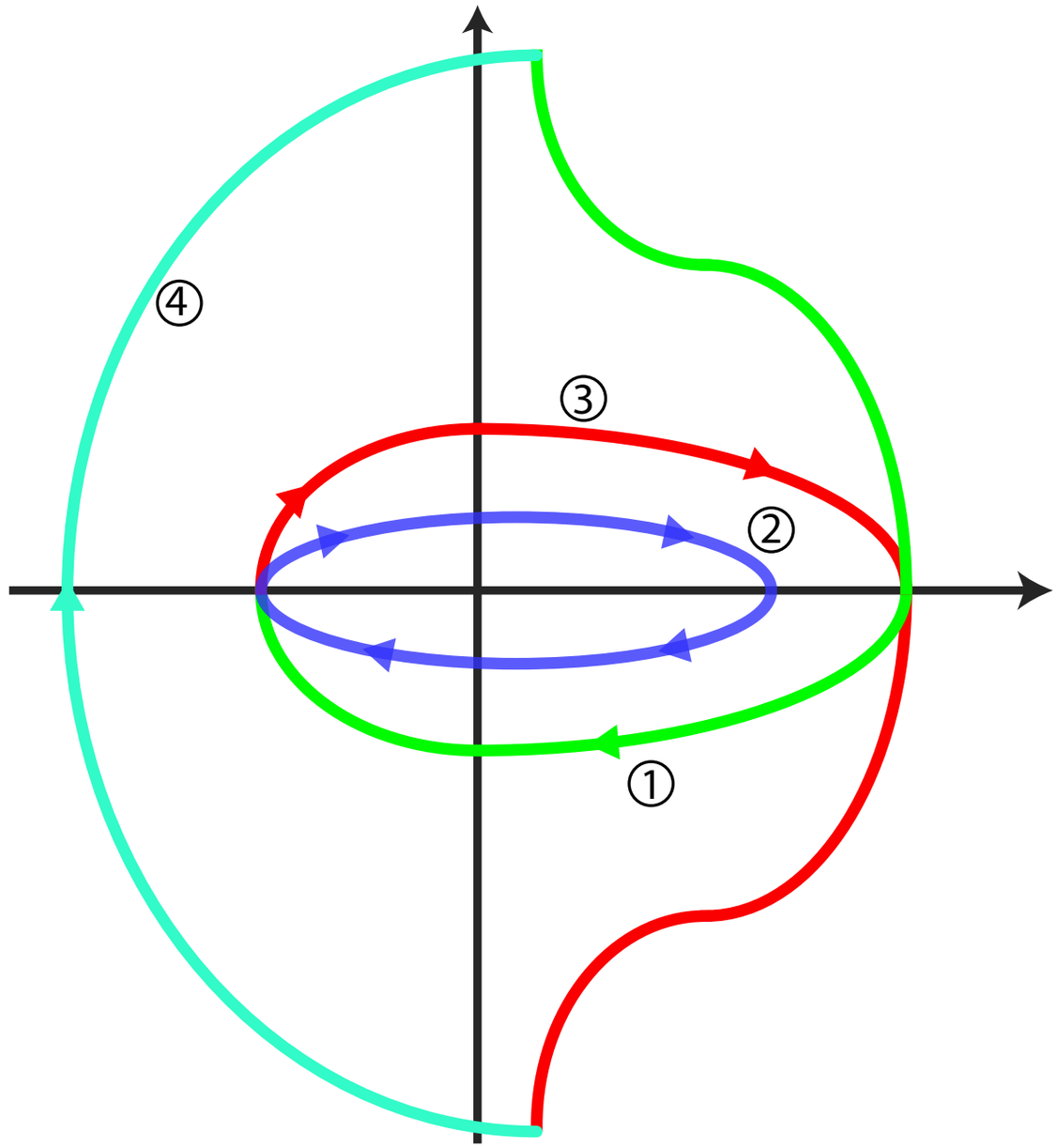
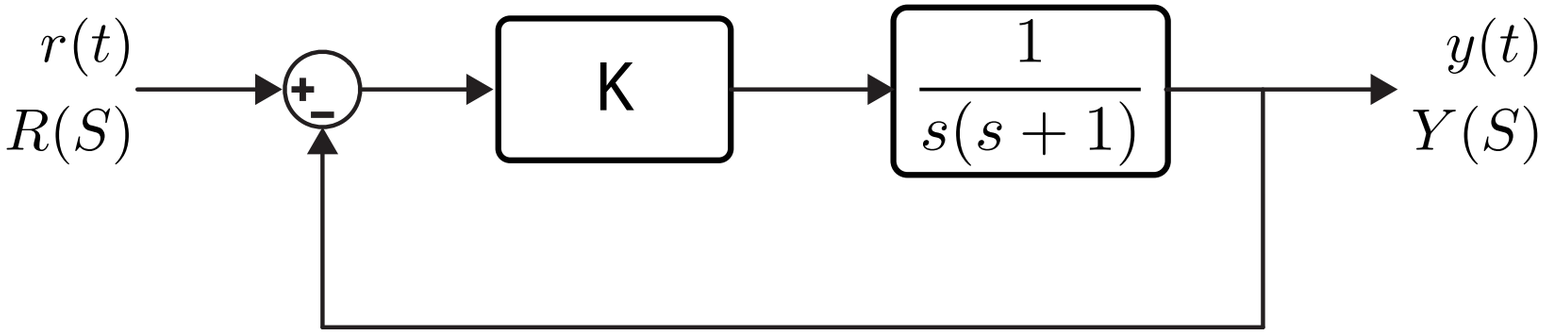


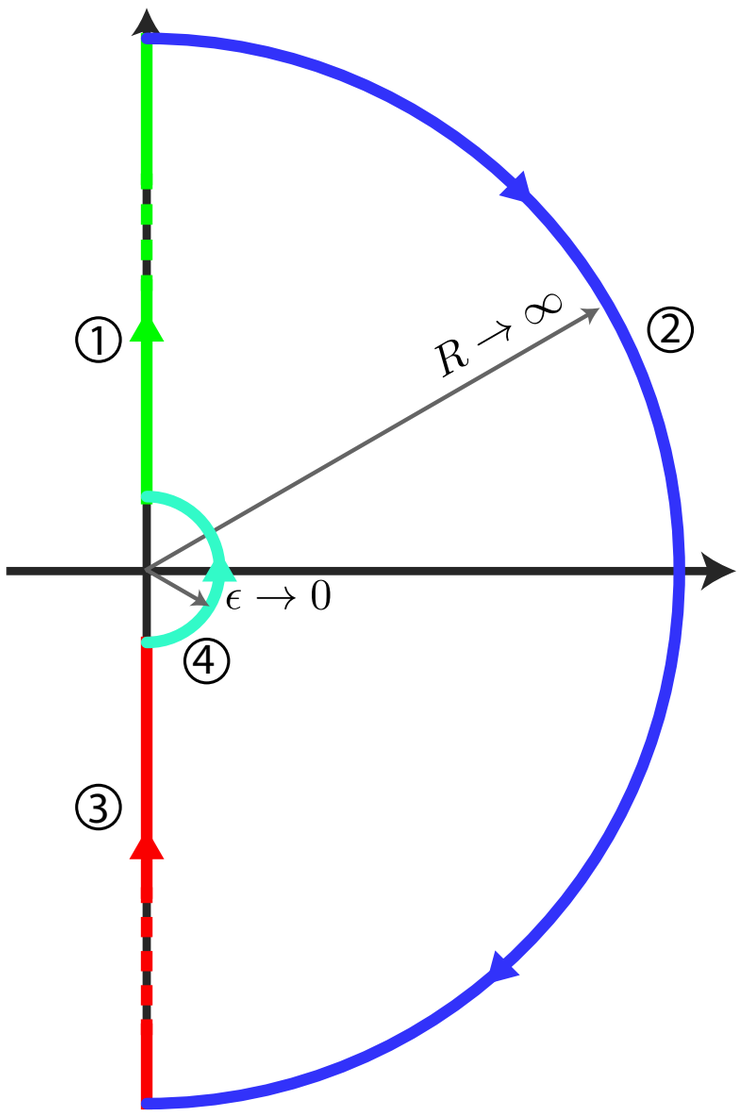
Nyquist Plot



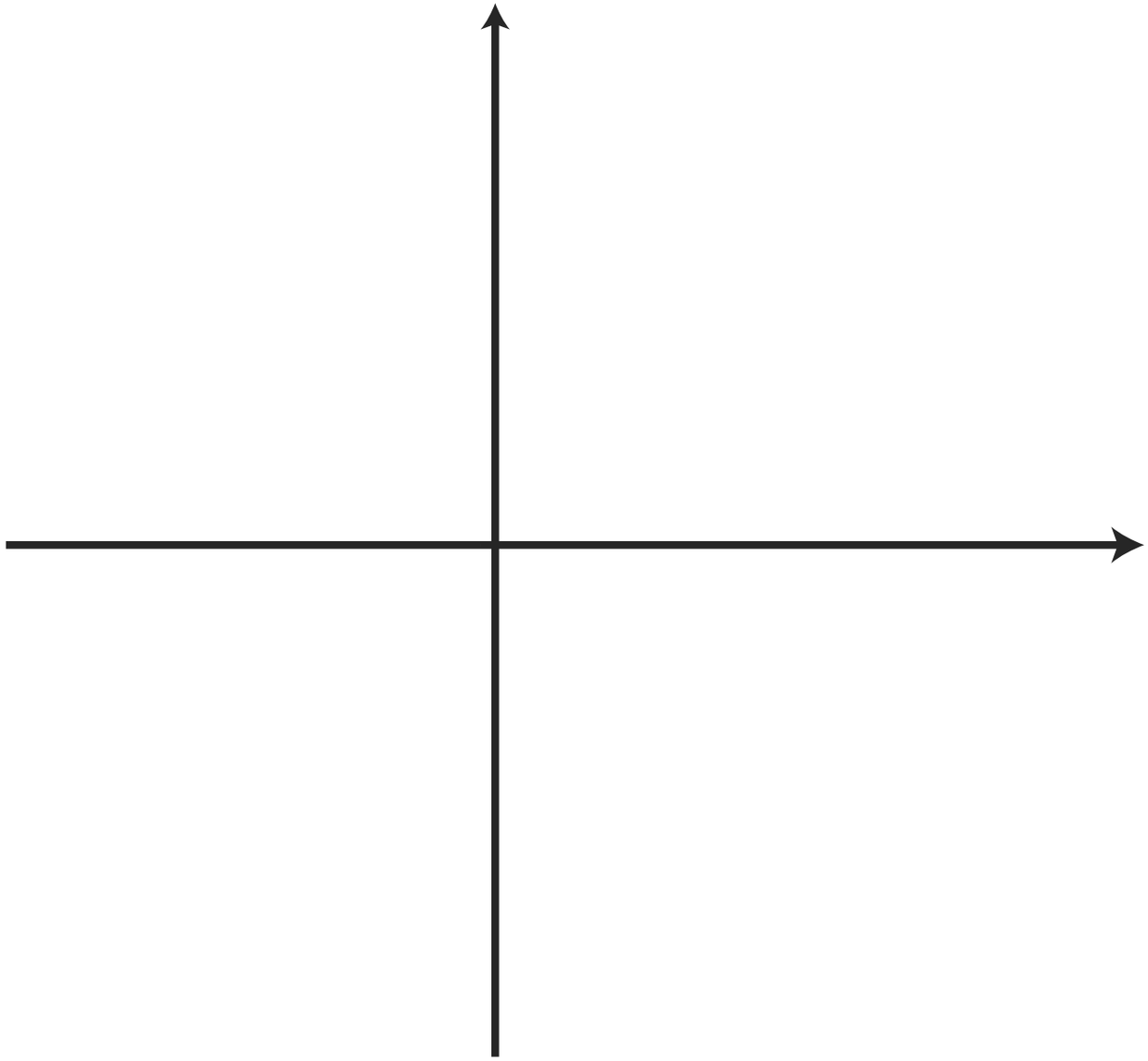

$r(t)$
$R(S)$
+
−
K
$\frac{1}{s(s+1)}$
$y(t)$
$Y(S)$

$$G_{OL}(s) = \frac{1}{s(s+1)}$$

Nyquist Contour



Nyquist Plot



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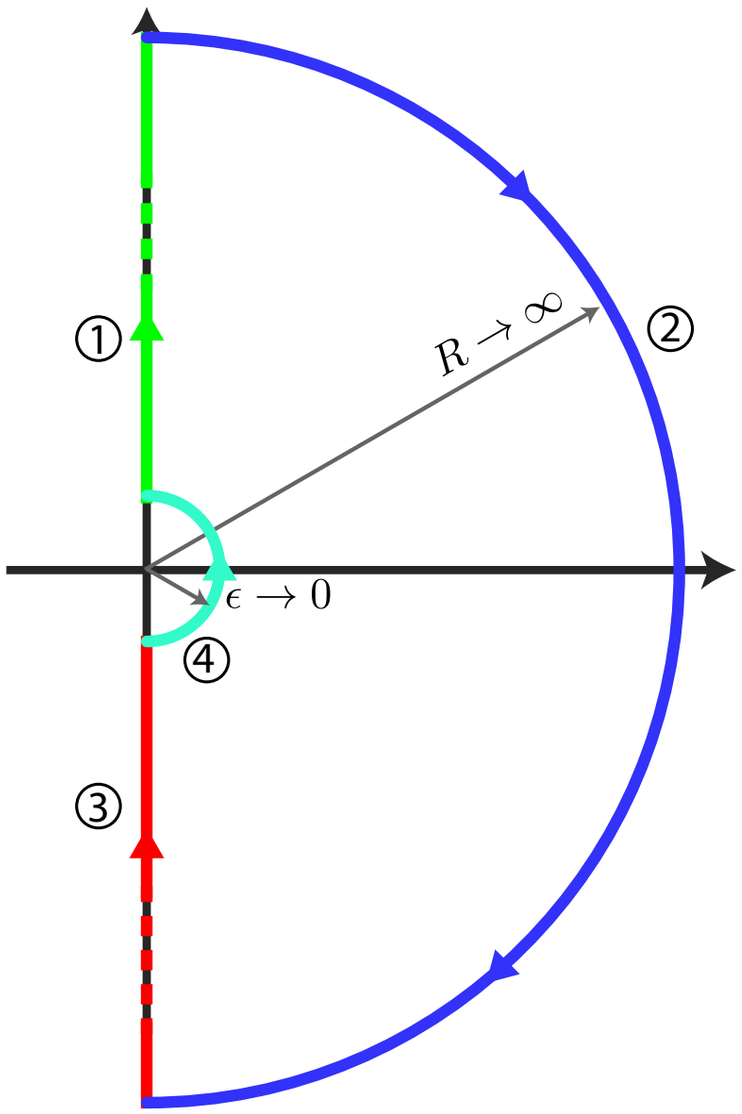

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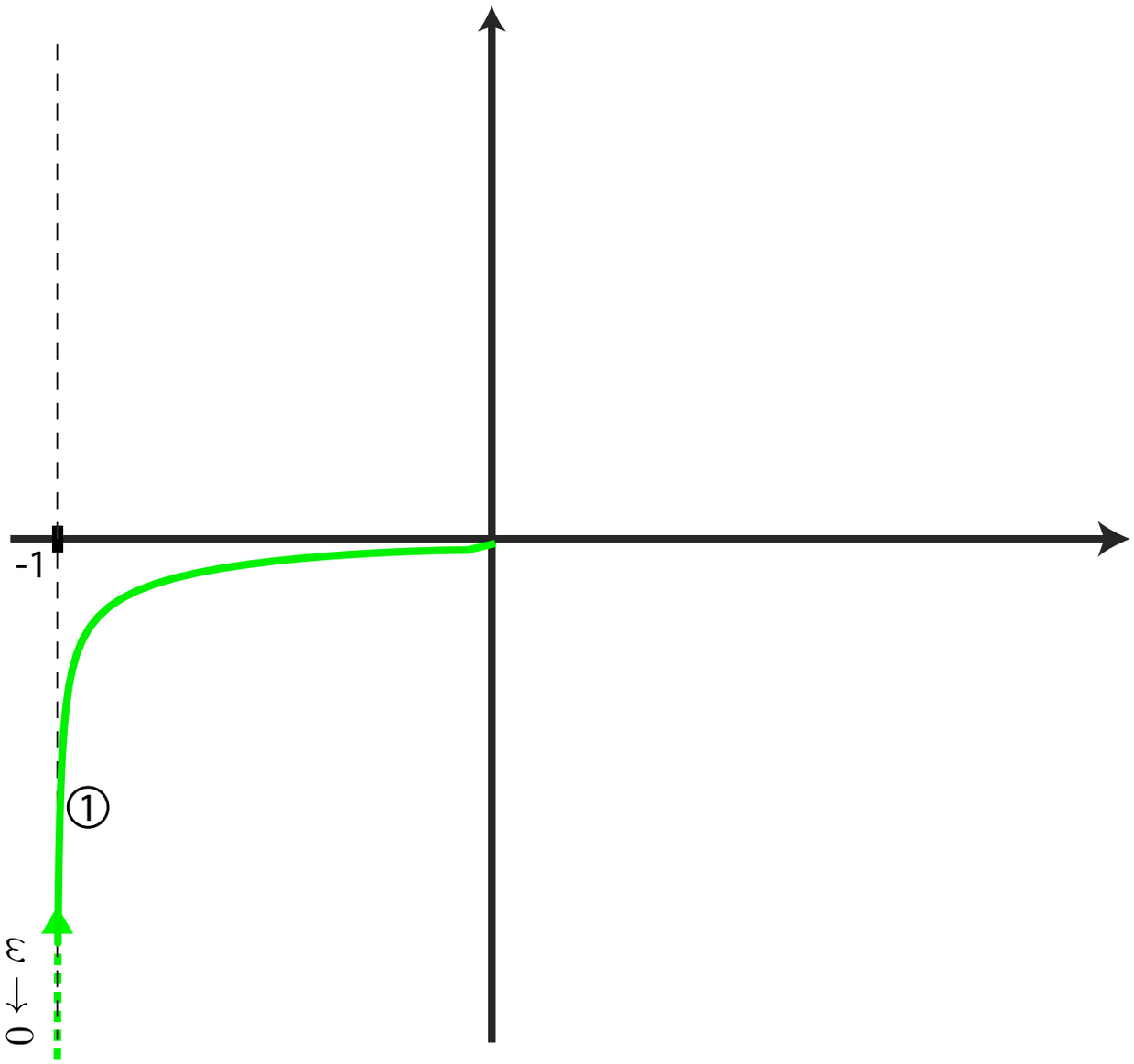

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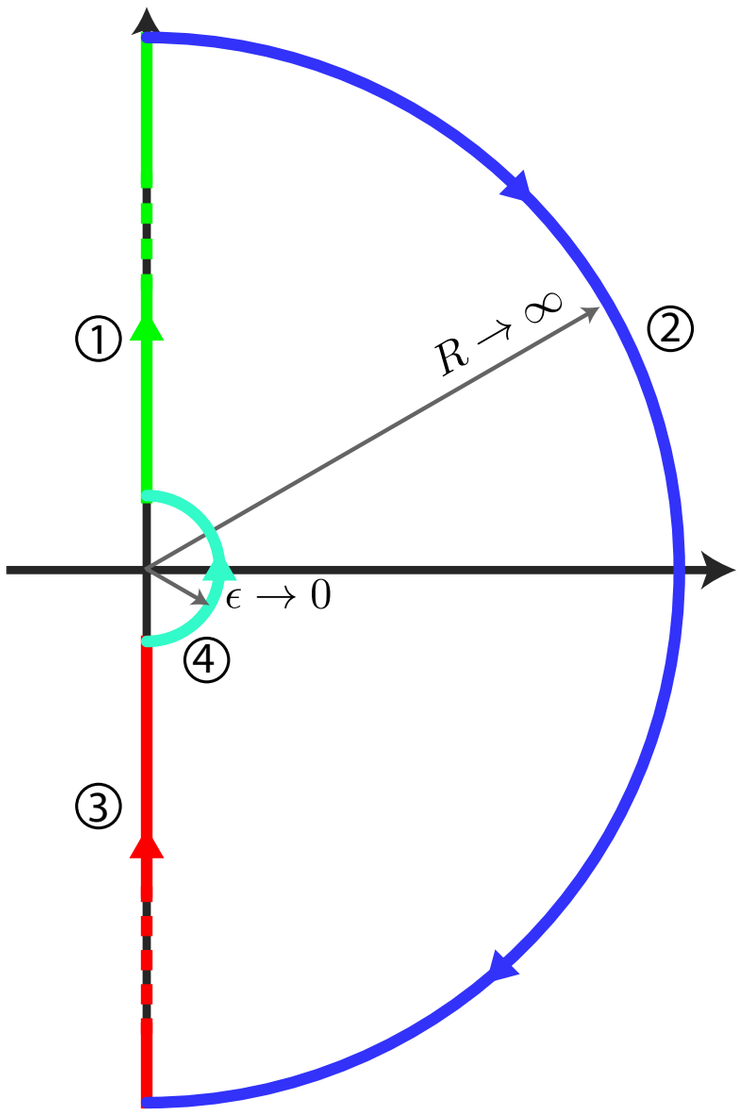

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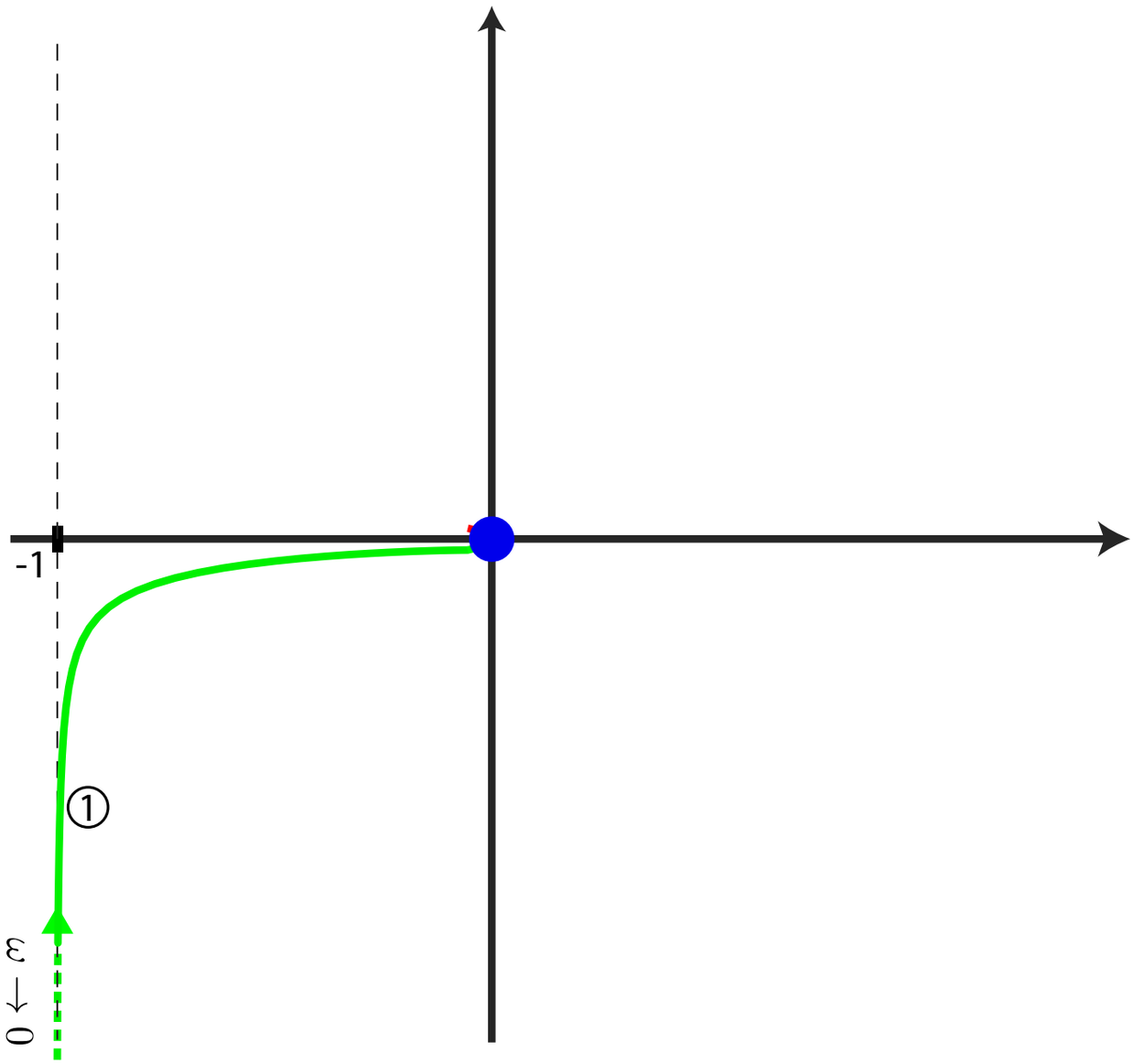

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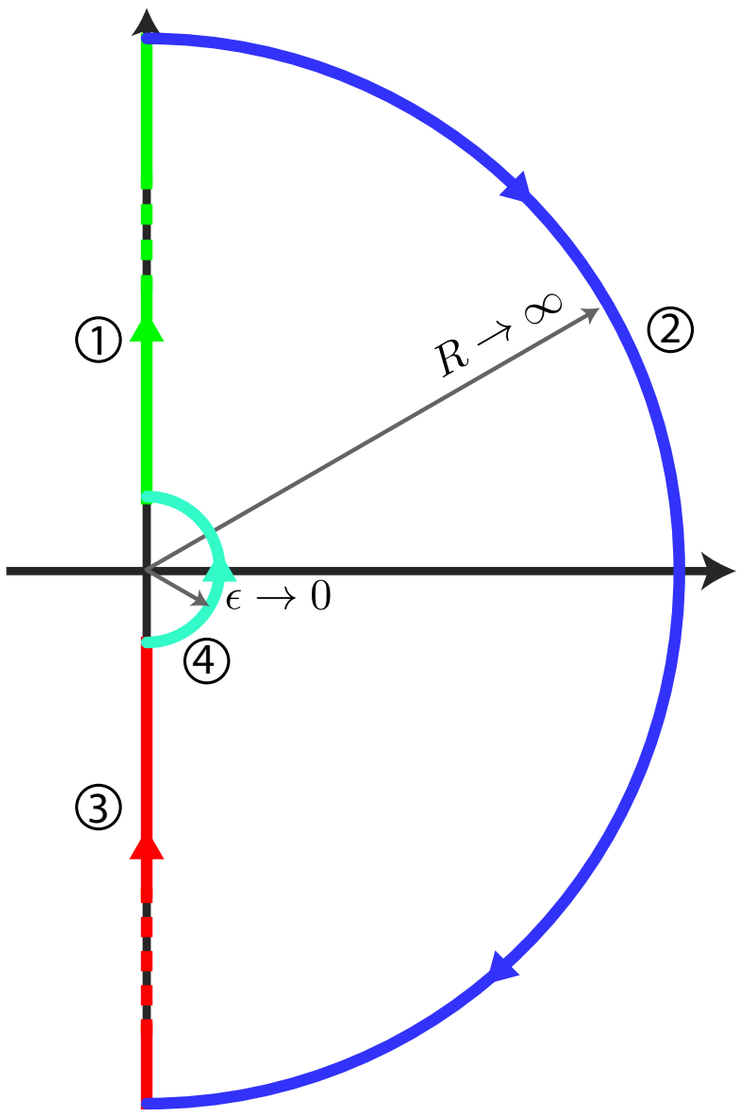

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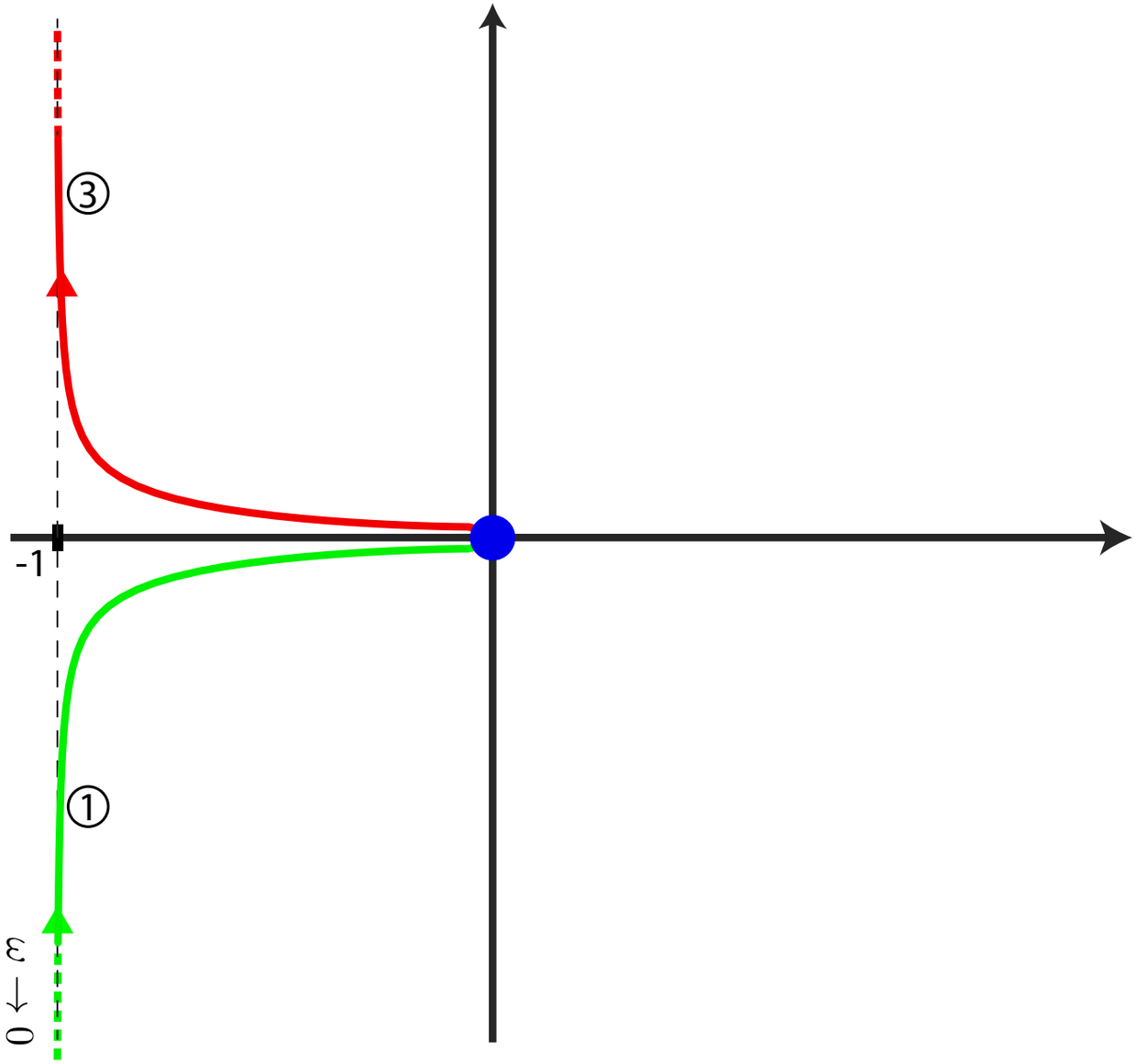

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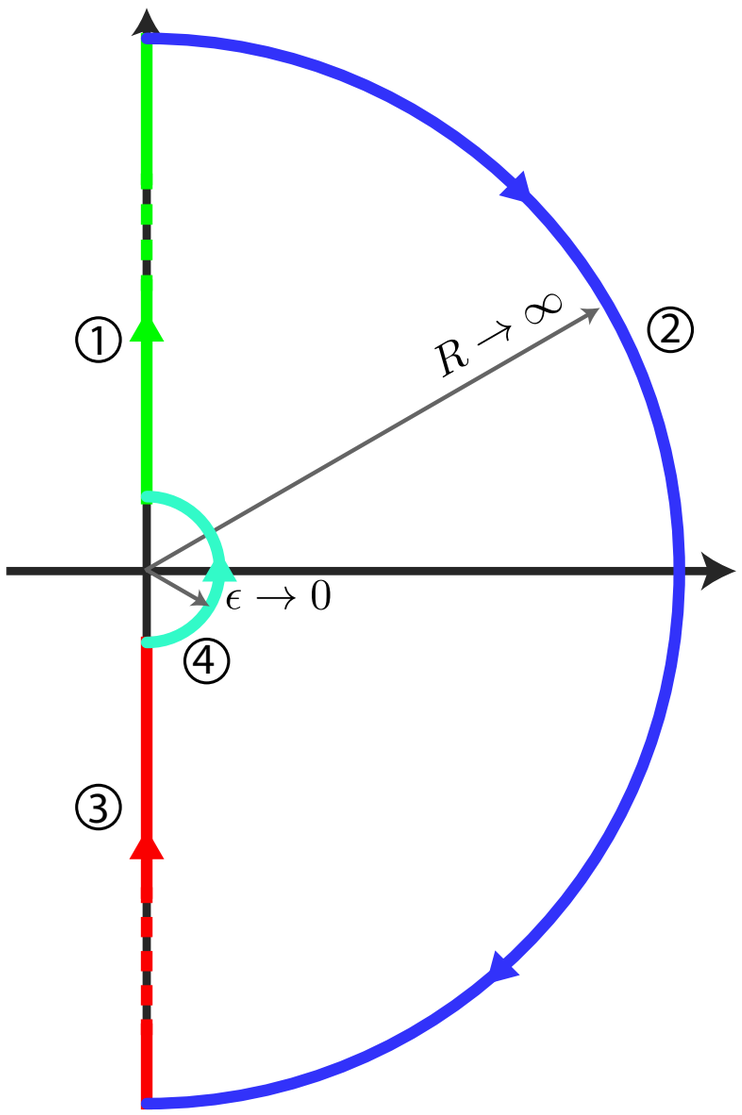

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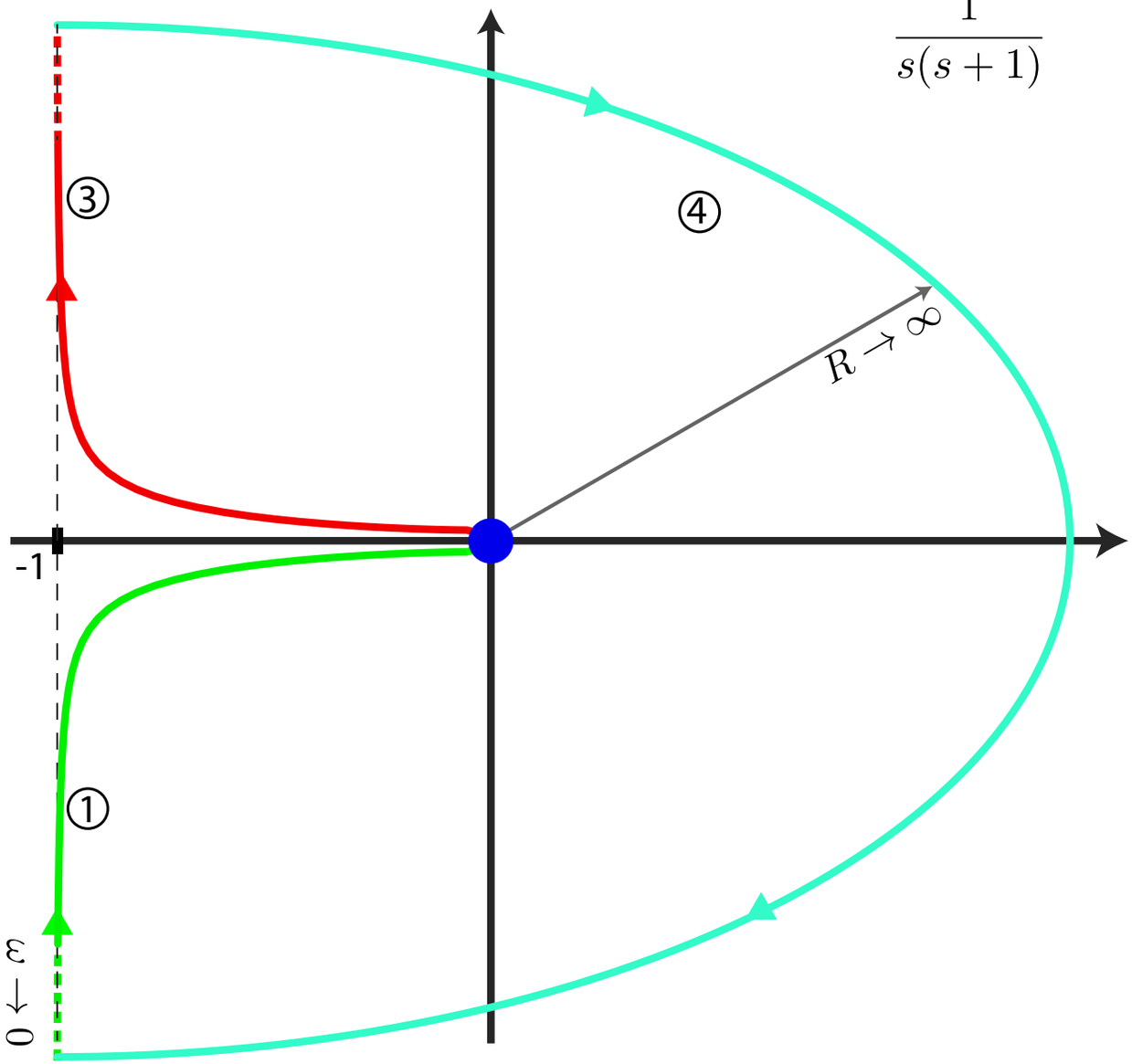

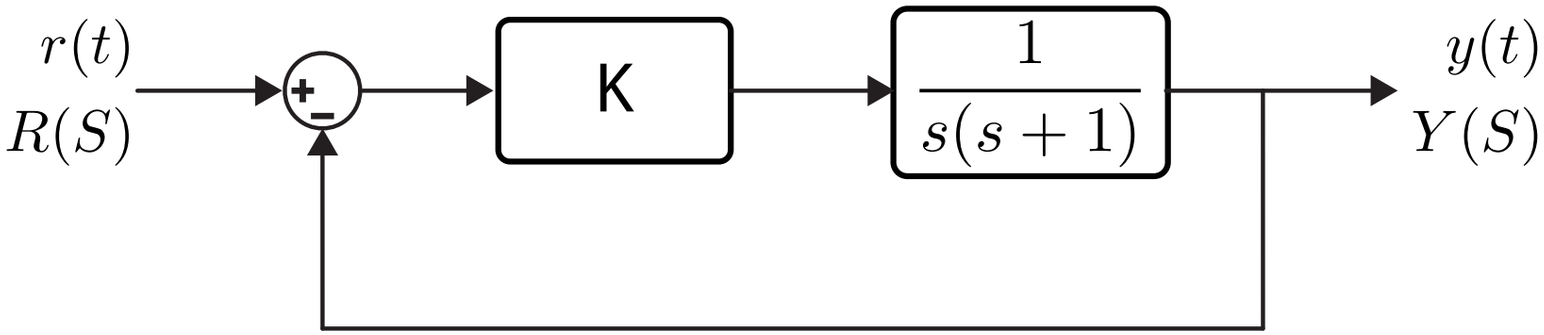

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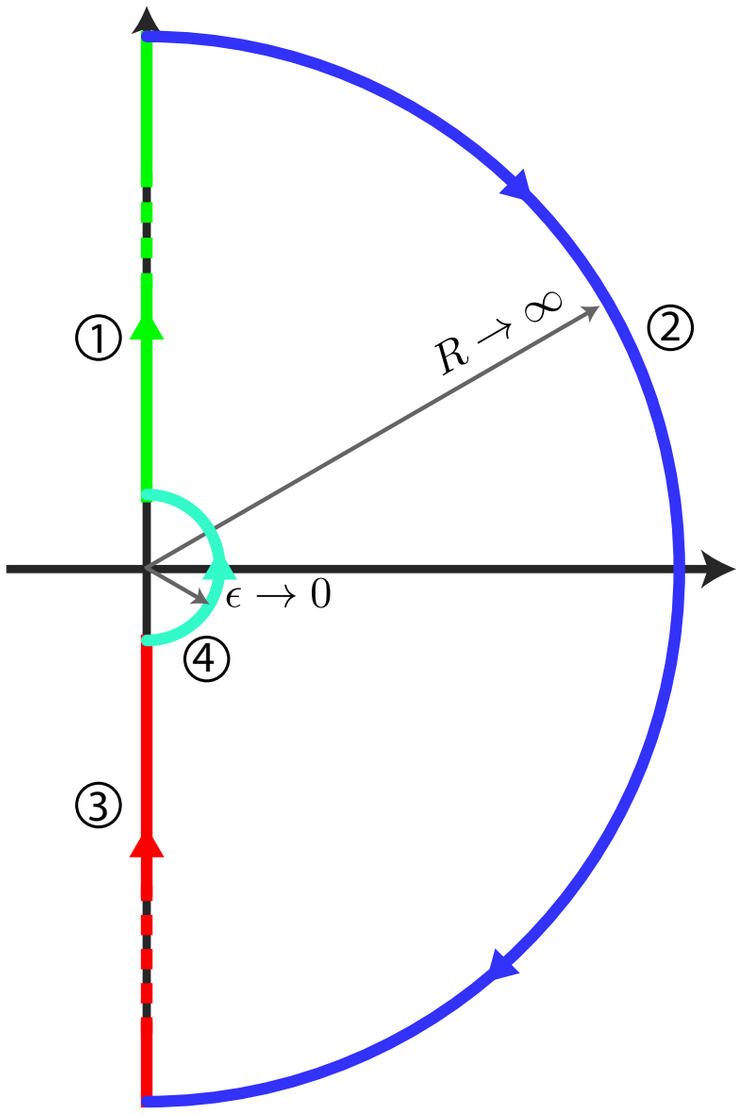

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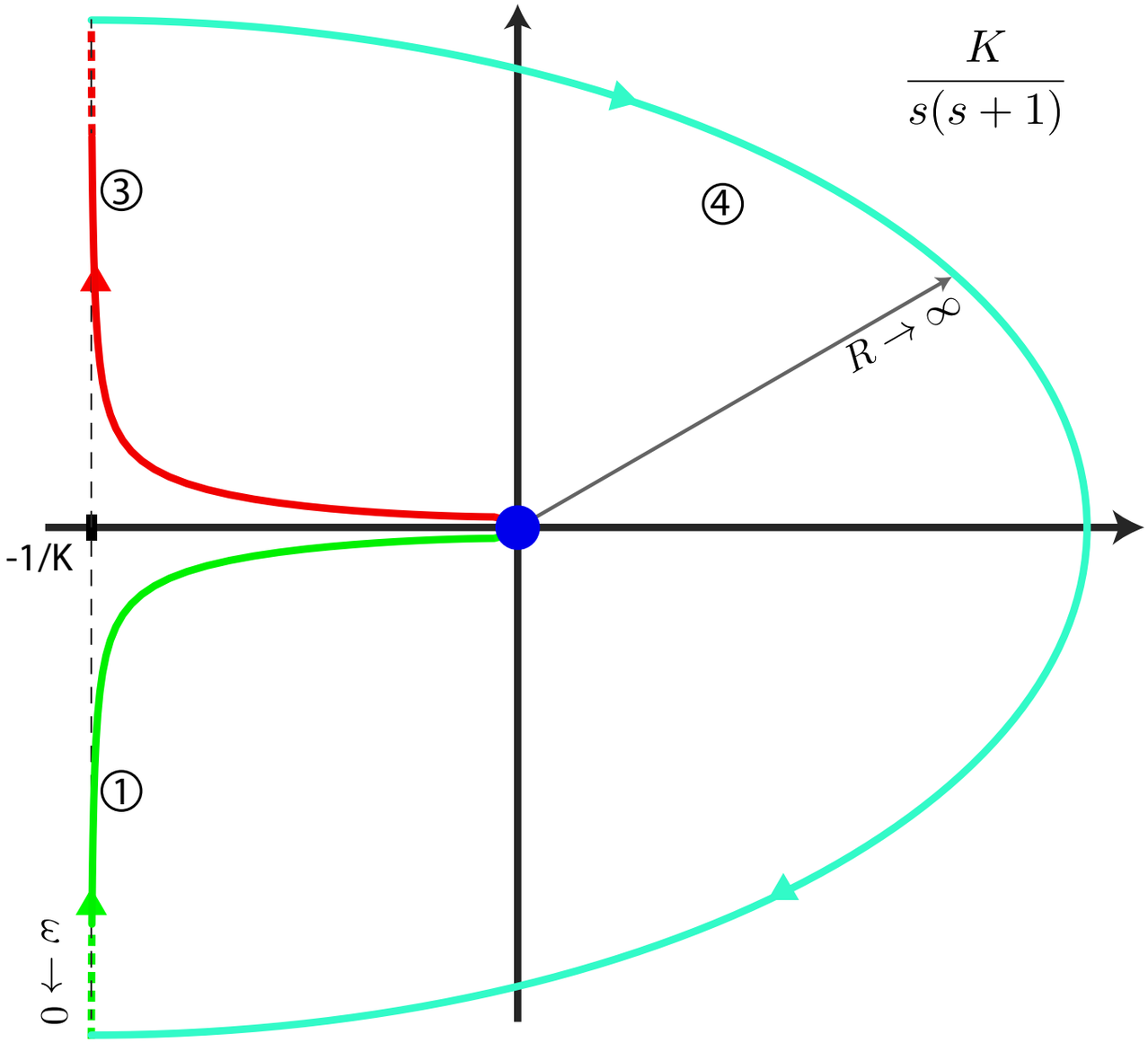

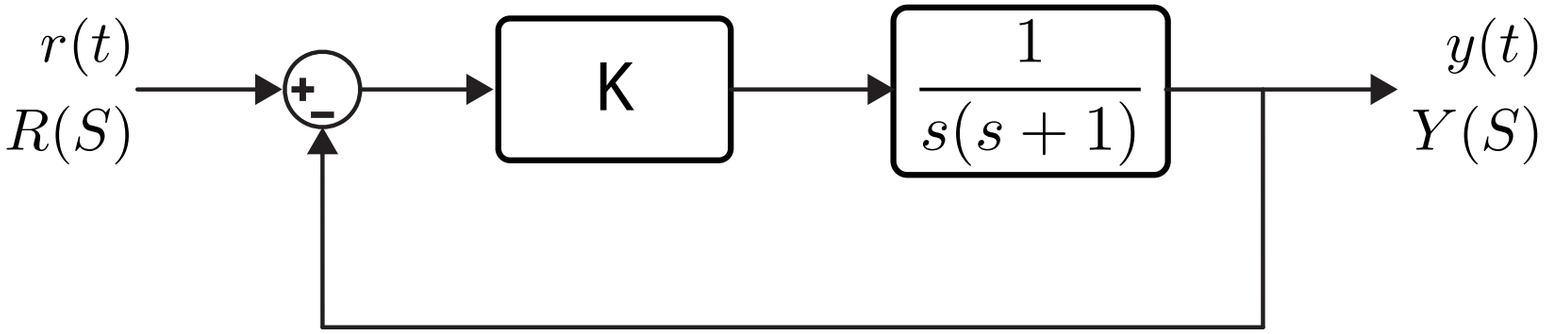
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