$$\underbrace{\frac{1-\Gamma_r^2-\Gamma_i^2}{(1-\Gamma_r)^2+\Gamma_i^2}}_{r} + j\underbrace{\frac{2\Gamma_i}{(1-\Gamma_r)^2+\Gamma_i^2}}_{x}$$

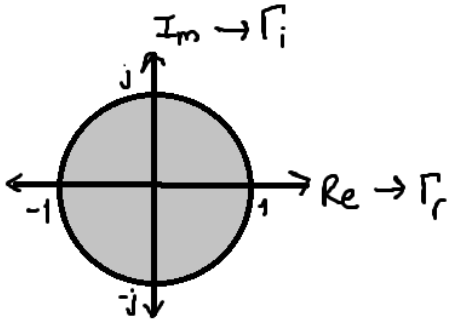
$$r = \frac{1-\Gamma_r^2-\Gamma_i^2}{(1-\Gamma_r)^2+\Gamma_i^2} \Rightarrow \left(\Gamma_r - \frac{r}{1+r}\right)^2 + \Gamma_i^2 = \left(\frac{1}{1+r}\right)^2$$

$\downarrow$

Γ_i-Γ_r düzleminde merkezi

$\Gamma_i = 0$ ve $\Gamma_r = \frac{r}{1+r}$ noktasında

bulunan; yarıçapı $\frac{1}{1+r}$ olan bir çember



$$x = \frac{2\Gamma_i}{(1-\Gamma_r)^2+\Gamma_i^2} \Rightarrow \left(\Gamma_r - 1\right)^2 + \left(\Gamma_i - \frac{1}{x}\right)^2 = \left(\frac{1}{x}\right)^2$$

$\Downarrow$

Γ_i-Γ_r düzleminde merkezi

$\Gamma_i = \frac{1}{x}$ ve $\Gamma_r = 1$ noktasında

bulunan; yarıçapı $\frac{1}{x}$ olan bir çember

① Γ_i-Γ_r düzleminde merkezi

$\Gamma_i = 0$ ve $\Gamma_r = \frac{r}{1+r}$ noktasında

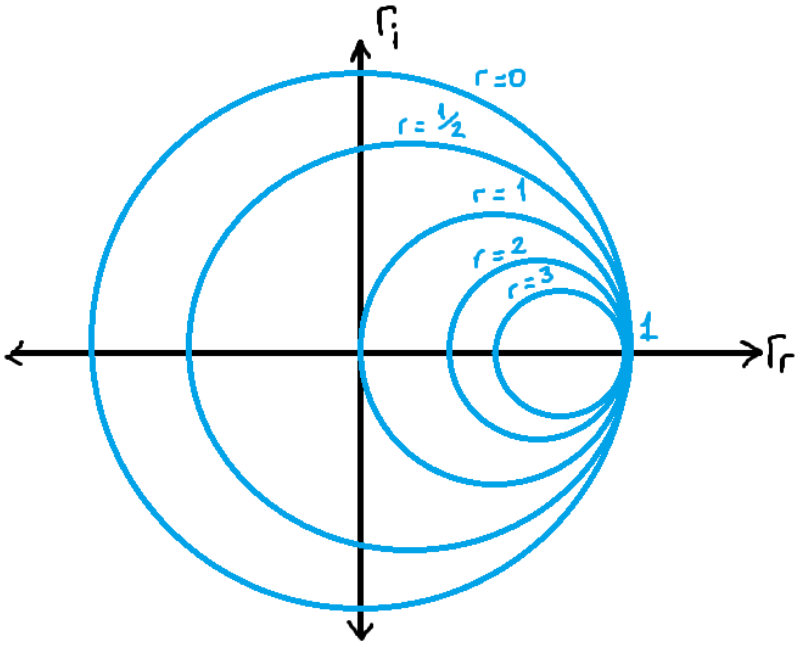
bulunan; yarıçapı $\frac{1}{1+r}$ olan çember

$r=0 \Rightarrow C(0,0)\ ;\ R=1$

$r=1 \Rightarrow C\left(\frac{1}{2},0\right)\ ;\ R=\frac{1}{2}$

$r=2 \Rightarrow C\left(\frac{2}{3},0\right)\ ;\ R=\frac{1}{3}$

$r=3 \Rightarrow C\left(\frac{3}{4},0\right)\ ;\ R=\frac{1}{4}$



Γ_i-Γ_r düzleminde merkezi

$\Gamma_i = \frac{1}{x}$ ve $\Gamma_r = 1$ noktasında

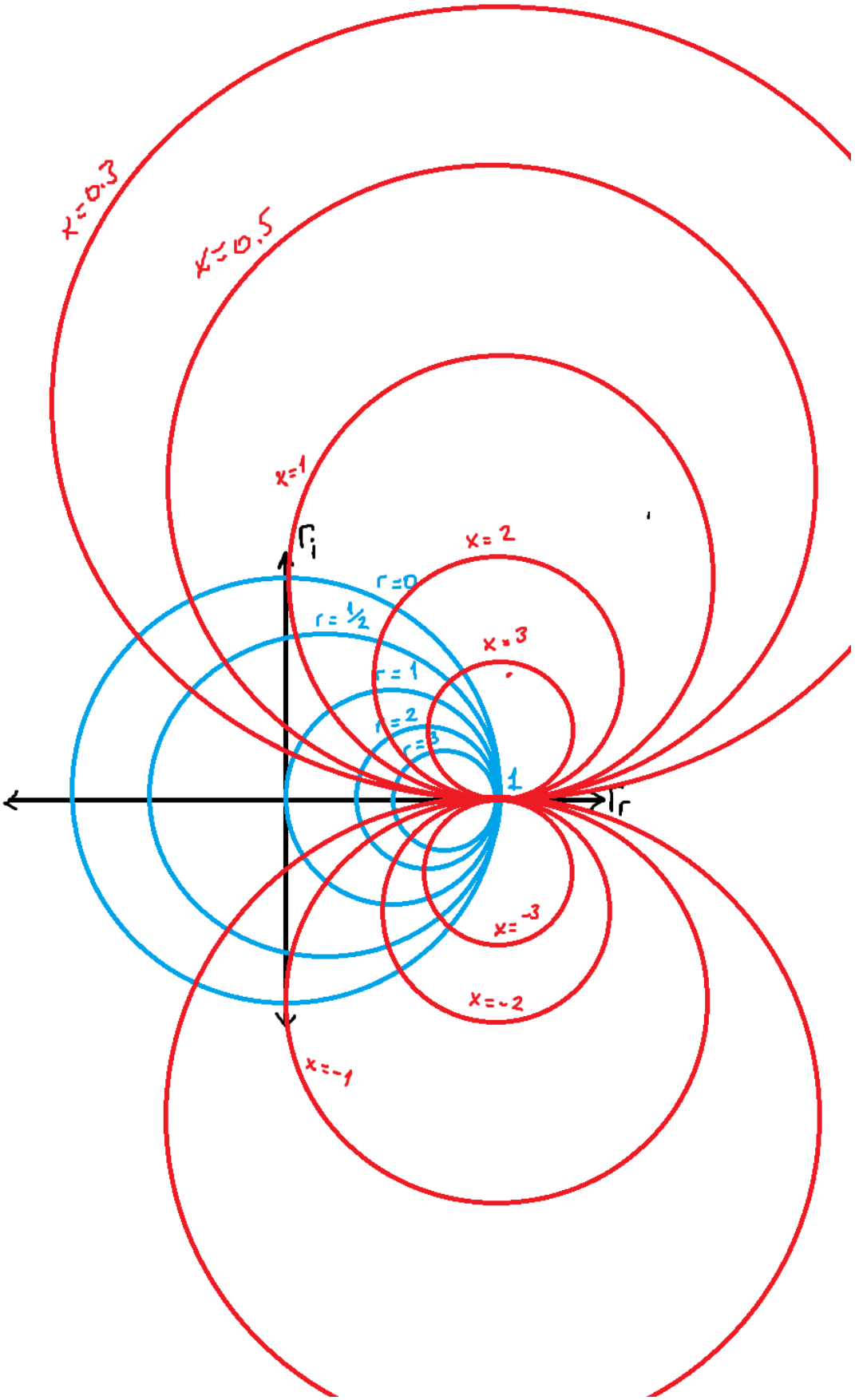
bulunan; yarıçapı $\frac{1}{x}$ olan çemberler

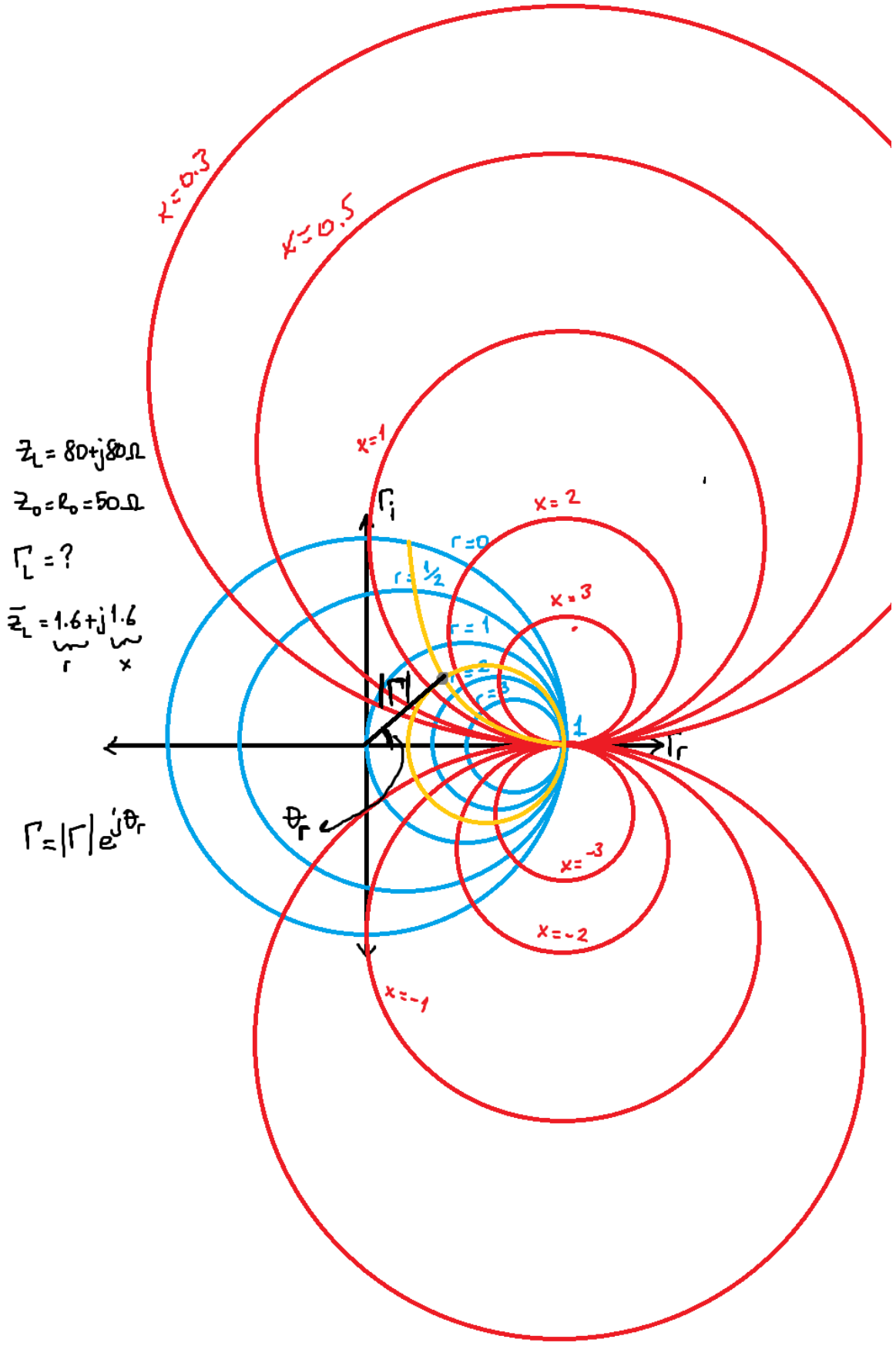
$x=0 \Rightarrow C(1,\infty)\ ;\ R=\infty$

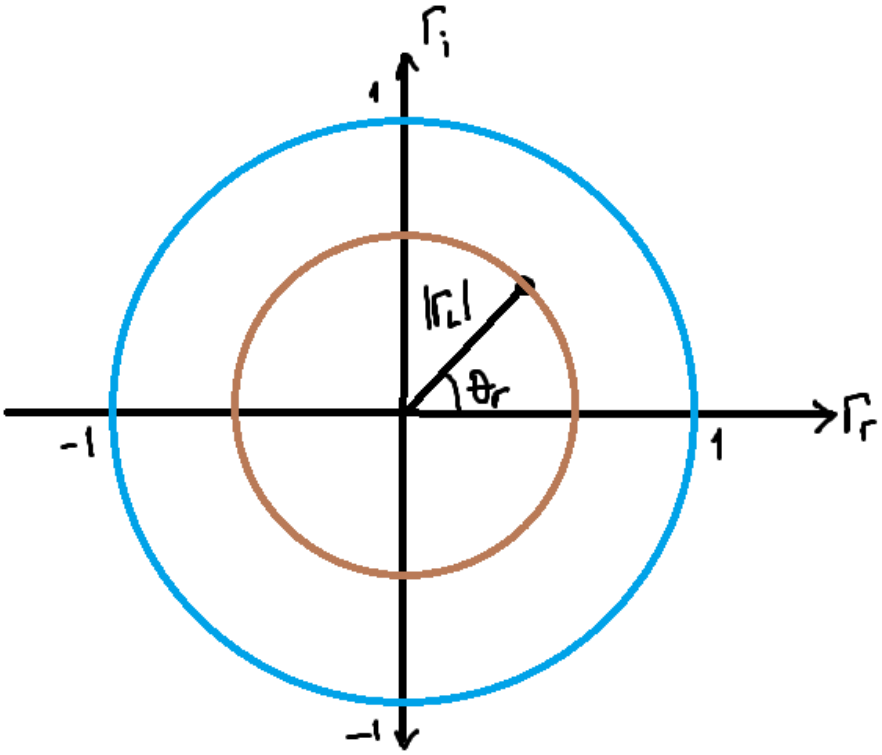
$x=1 \Rightarrow C(1,1)\ ;\ R=1$

$x=2 \Rightarrow C\left(1,\frac{1}{2}\right)\ ;\ R=\frac{1}{2}$

$x=3 \Rightarrow C\left(1,\frac{1}{3}\right)\ ;\ R=\frac{1}{3}$


x=0.3
x=0.5
x=1
x=2
x=3
x=-3
x=-2
x=-1
r=0
r=½
r=1
r=2
r=3
1
Γi
Γr


x=0.3
x=0.5
x=1
x=2
x=3
x=-3
x=-2
x=-1
r=0
r=½
r=1
r=2
r=3
1
Γi
Γr
|Γ|
θr
ZL = 80+j80Ω
Z0 = R0 = 50Ω
ΓL = ?
z̄L = 1.6+j1.6
r x
Γ = |Γ| e^jθr


Γ_i
1
$|\Gamma_L|$
θ_r
-1
1
Γ_r
-1