Kittel Sstate (P) sin Ka + cos Ka = cos ka (Kronig-Renny solh.) 7.3 (4) with k=0, we have PsnKa+cosKa=1, Panka = Kall-Eoska] cos Ka = cos 2 ka = cos 2 ka - sin2 ka 1- cos Ka = cos² ka + sm² ka - cos² ka + sm² ka Psinka = Ka 2 sin Ka 2Psin Ka cos Ka = Ka 28,72 Kg & Paska = Kalsin Ka $\Rightarrow \frac{P}{Ka} = ton \frac{Ka}{2}$ Use approximation ka small, toute a ka $\frac{P}{K\alpha} \approx \frac{K\alpha}{2}, \quad K\alpha = \frac{2P}{\alpha^2}$ $e = \frac{1}{2}k^{2} \Rightarrow e = \frac{2Ph^{2}}{2ma^{2}} = \frac{Dh^{2}}{ma^{2}}$ Davidson Cherry

1,7,2024.

Kittled SState 7.366. For k= 1, ne have from the Kroning-Penny solh. $\frac{P}{K}$ sin Kat cos Ka = -1 Psinka = - Ka [1+los Ka] 1+ cos Ka = 1+ cos 2 ka = 1+ cos 2 ka - sm2 ka = 2005 kg => Psinka = - Kaz cos ka 2 P cos Ka sm lca = -2 Ka (052 Ka) Psin kg = - Ka cos ka Ptanka = -Ka This equation gives allowed values of K. For simplicity we how consider solutions for Ptanx= -x, graphing: J= 12 tanx ne see that the solutions will fend to have same periodizerty as tan. Thus he expect AK 2 2T 4 = - X - S - D - X - (27) + = 2/21/2t/2 Davidan Cherry 1.7.2029.