Sedaj je potrebno pogledati kaj se dogaja na robovih (robni pogoji), ki pa so:

(*) $$\psi_2\left(\frac{a}{2}\right) = \psi_3\left(\frac{a}{2}\right)$$
$$\psi_2'\left(\frac{a}{2}\right) = \psi_3'\left(\frac{a}{2}\right)$$

a] $$\psi_2\left(\frac{a}{2}\right) = C\cos\left(k\frac{a}{2}\right)$$
$$\psi_3\left(\frac{a}{2}\right) = F e^{-\varkappa\frac{a}{2}} \quad \Rightarrow \quad \boxed{C\cos\left(k\frac{a}{2}\right) = F e^{-\varkappa\frac{a}{2}}} \quad (1)$$

b] $$\psi_2'\left(\frac{a}{2}\right) = C\sin\left(k\frac{a}{2}\right)k$$
$$\psi_3'\left(\frac{a}{2}\right) = F e^{-\varkappa\frac{a}{2}}\varkappa \quad \Rightarrow \quad \boxed{C\sin\left(k\frac{a}{2}\right)k = F e^{-\varkappa\frac{a}{2}}\varkappa} \quad (2)$$

Enačbo (2) delimo z prvo (1) enačbo:

$$\boxed{\mathrm{tg}\left(k\frac{a}{2}\right) = \frac{1}{k}\varkappa = \frac{\varkappa}{k}}$$

Liha funkcija:

$$\psi_2 = D\sin(kx)$$
$$\psi_1 = -F e^{-\varkappa x}$$
$$\psi_3 = F e^{\varkappa x}$$

$$\psi_2\left(\frac{a}{2}\right) = \psi_3\left(\frac{a}{2}\right)$$
$$\boxed{D\sin\left(k\frac{a}{2}\right) = -F e^{-\varkappa\frac{a}{2}}} \quad (3)$$
$$\psi_2'\left(\frac{a}{2}\right) = \psi_3'\left(\frac{a}{2}\right) = \psi_1'\left(\frac{a}{2}\right)$$
$$\boxed{kD\cos\left(k\frac{a}{2}\right) = +F e^{-\varkappa\frac{a}{2}}\varkappa} \quad (4)$$

Enačbo (3) delimo s enačbo (4):

$$\mathrm{tg}\left(k\frac{a}{2}\right)\frac{1}{k} = -\frac{1}{\varkappa}$$

$$\boxed{\mathrm{ctg}\left(k\frac{a}{2}\right) = -\frac{\varkappa}{k}}$$