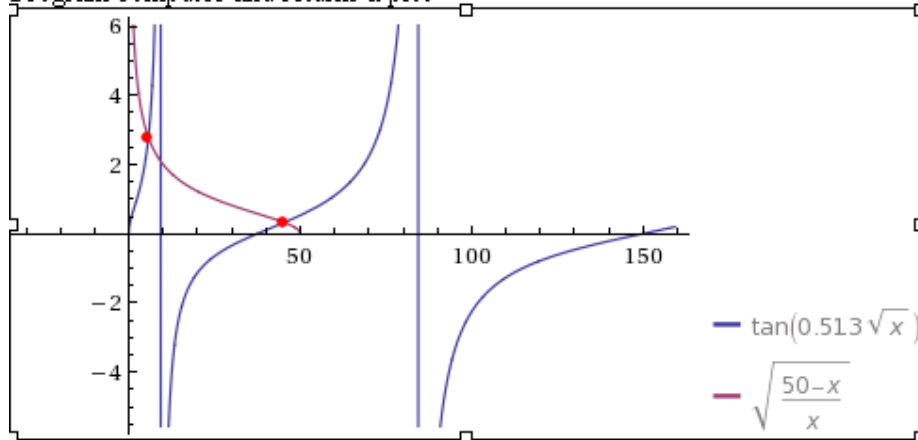


## Solving transcendental equations using Wolfram alpha

1. You will be occasionally be asked to solve transcendental equations to find the energies of bound states.
2. This is how you can make a linear rather than a semi log version of the transcendental plot shown on page 15 in the BOUND chapter
3. The link is at <http://www.wolframalpha.com/>
4. You input the Eq.(22) transcendental equation in the input box as

$$\tan[.513*\text{sqrt}(x)]=\text{sqrt}[(50-x)/x]$$

5. Program computes and returns a plot



You could make a screen shot of the plot and "paste" into your homework on a separate page.

Wolfram Alpha also returns the intersection values which are the energies of the two even parity states.

$$b = 5.71165646428628\dots$$

$$b = 45.3061462106931$$