Using the circle intersection method:

We know the locations of the fixed points O, C, and E:

$$O = (0,0) \quad C = (0, l_4) \quad E = (-6, l_4)$$

We know the Cartesian coordinates for points A and B by defining it in terms of a vector relative their respective fixed points:

$$\vec{l_1} = \langle l_2 \cos(\theta_2), l_2 \sin(\theta_2) \rangle \implies A = \langle 0,0 \rangle + \langle l_2 \cos(\theta_2), l_2 \sin(\theta_2) \rangle$$

$$\vec{l_3} = \langle l_3 \cos(\theta_3), l_3 \sin(\theta_3) \rangle \implies B = \langle 0, l_4 \rangle + \langle l_3 \cos(\theta_3), l_3 \sin(\theta_3) \rangle$$

We can then define the equations of the circles centered at O and C with radii l_2 and l_3 respectively: