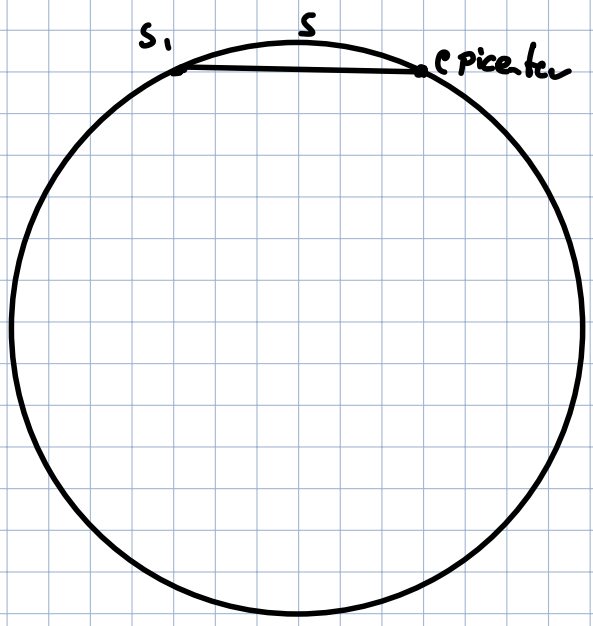
r = Earth radius

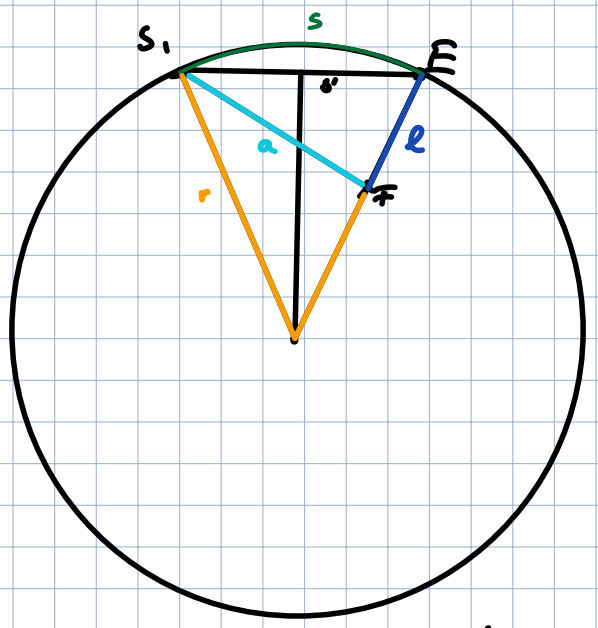


First attempt in finding the epicentral distance

$$\Delta t = t_S - t_P$$

$$\Delta t = \frac{s}{v_S} - \frac{s}{v_P}$$

$$\Rightarrow s = \frac{v_S \cdot v_P \cdot \Delta t}{v_P - v_S}$$



Second attempt

$s' \approx s$

$a = \sqrt{l^2 + s^2}$

$$\Delta t = \frac{a}{v_S} - \frac{a}{v_P}$$

$$\Rightarrow s = \frac{v_P \cdot v_S \cdot \Delta t}{v_P - v_S}$$