Diffraction
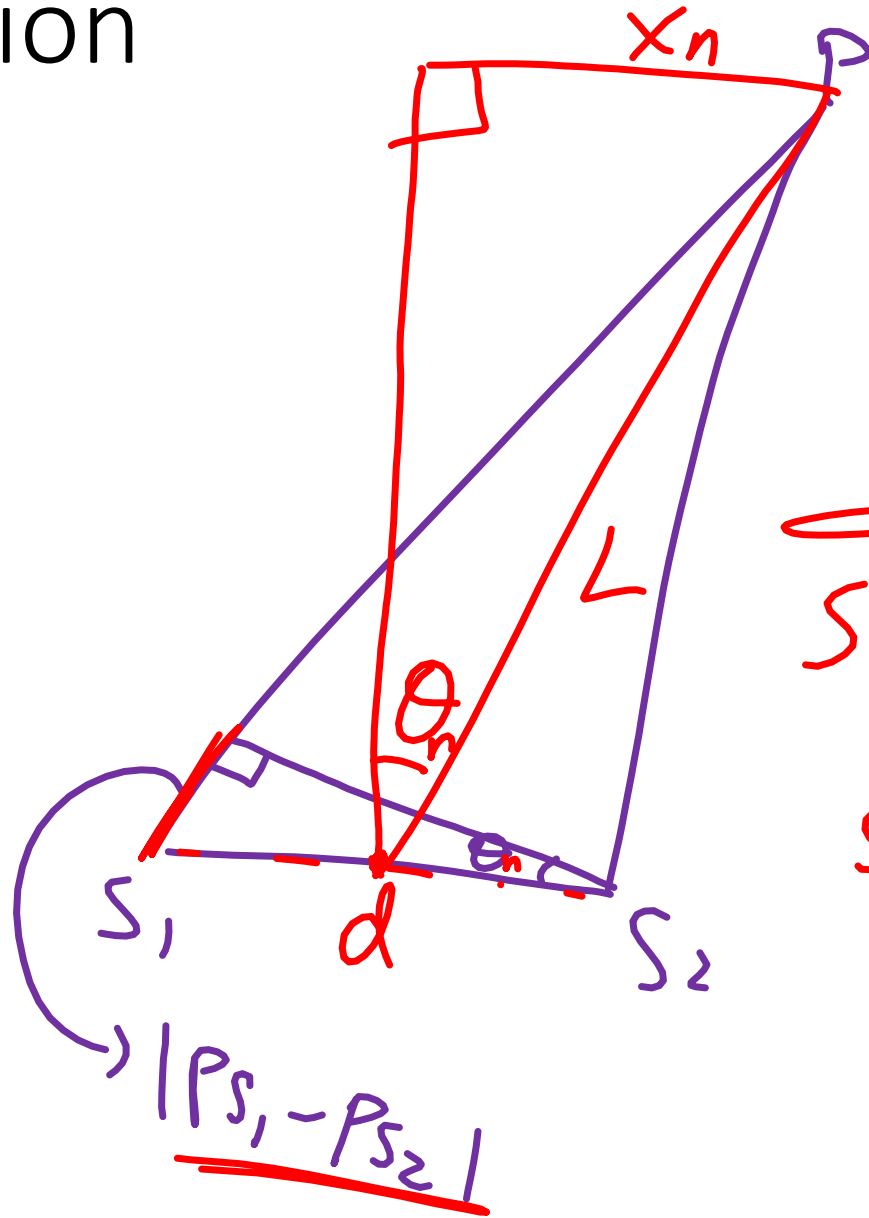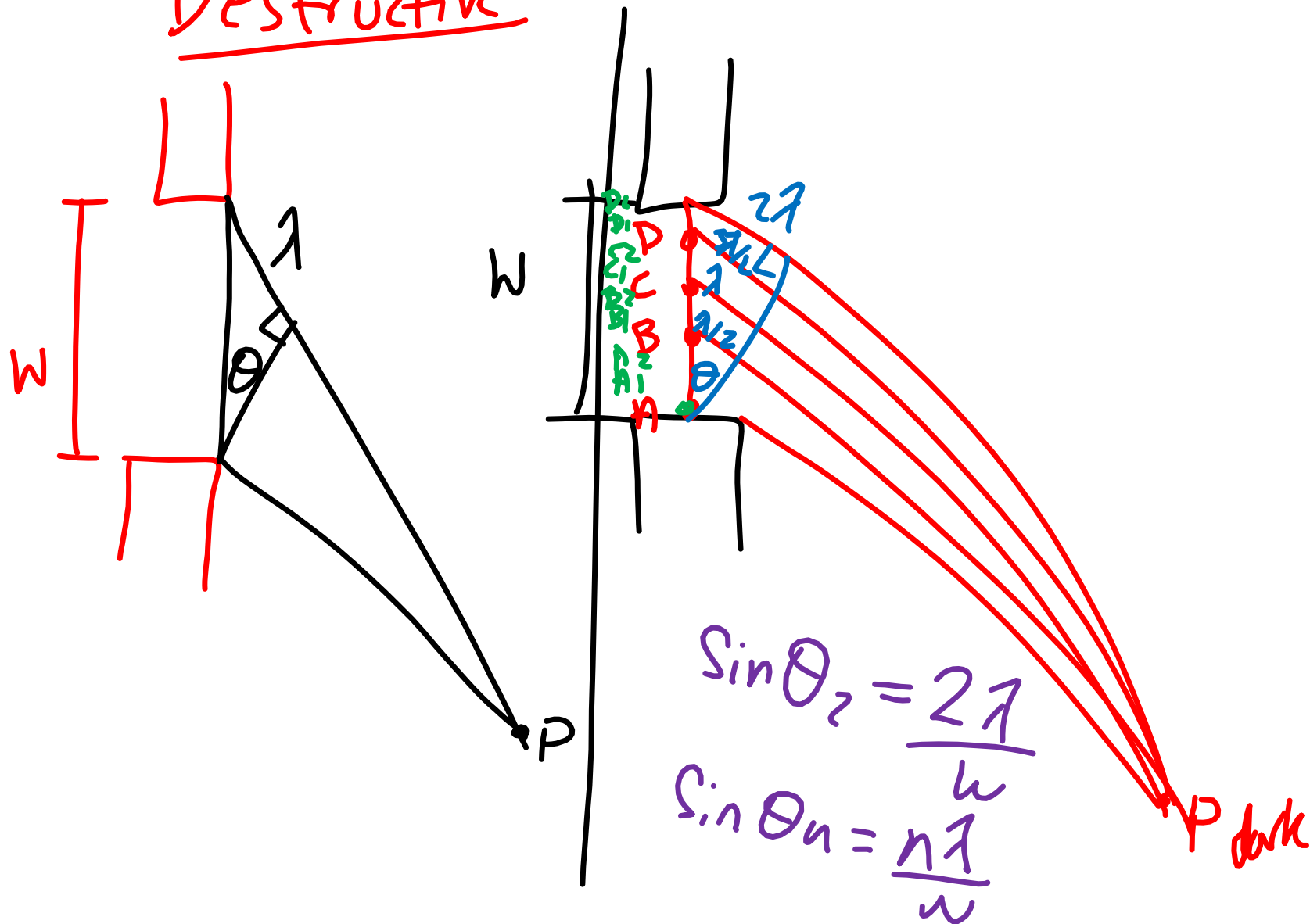

$$|P_{S_1} - P_{S_2}| = (n - \tfrac{1}{2})\lambda$$

$$\sin\theta_n = \frac{(n - \tfrac{1}{2})\lambda}{d}$$

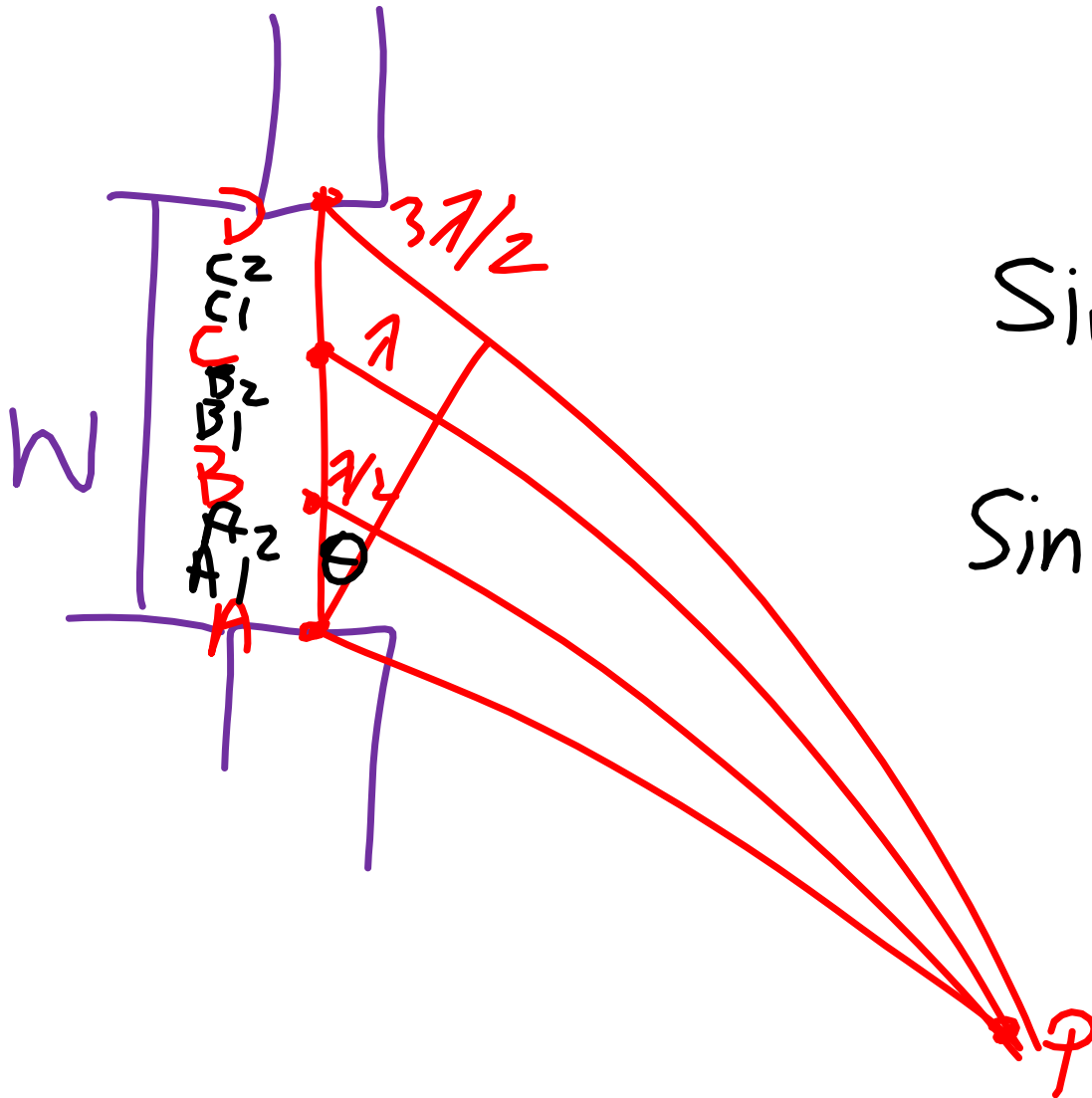$$\sin\theta_n = \frac{x_n}{L}$$

Single Slit Diffraction

$$\sin \theta_2 = \frac{2\lambda}{w}$$

$$\sin \theta_n = \frac{n\lambda}{w}$$

Constructive

$$\sin\theta_1 = \dfrac{\dfrac{3\lambda}{2}}{w}$$

$$\sin\theta_m = \dfrac{\left(m + \dfrac{1}{2}\right)\lambda}{w}$$

$$m = 0, 1, 2$$