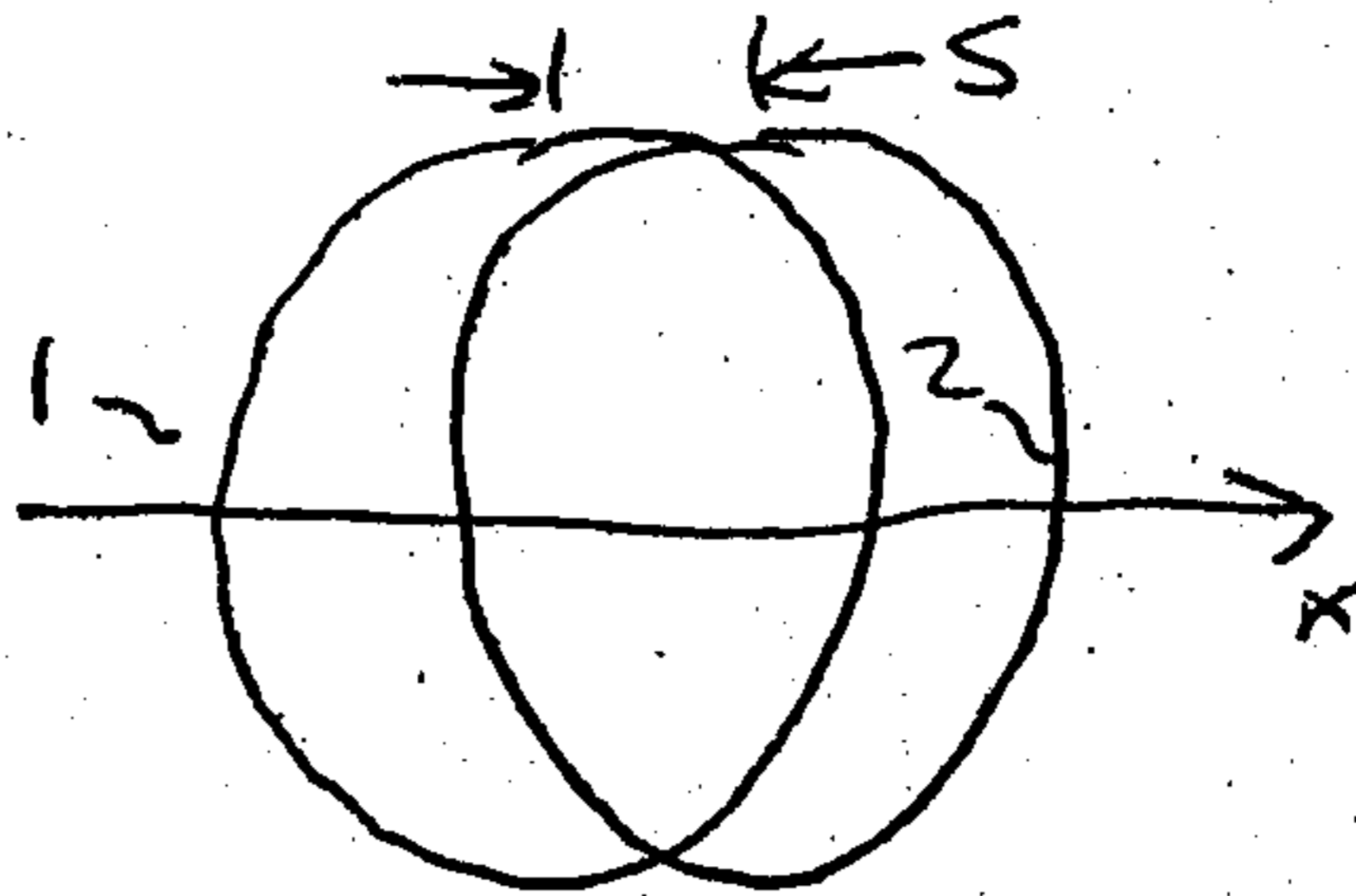


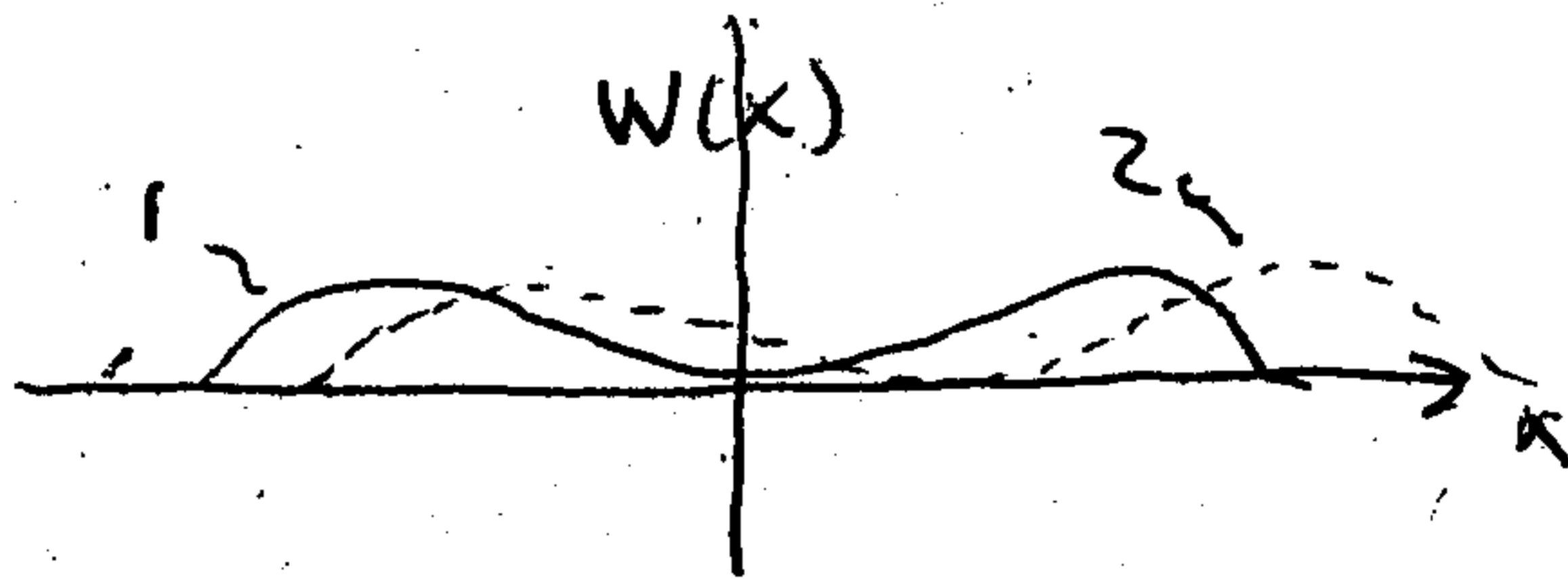
SHEAR PLATE

LATERAL SHEAR -



IDENTICAL,
DISPLACED
BEAMS.

PROFILE ALONG x :



$$I(x) = \left| e^{j \frac{2\pi}{\lambda} W_1(x)} + e^{j \frac{2\pi}{\lambda} W_2(x)} \right|^2$$

but $W_2(x) = W_1(x - s)$

$$I(x) = 2 + 2 \cos \left\{ \frac{2\pi}{\lambda} [W_1(x) - W_2(x)] \right\}$$

$$= 2 \left[1 + \cos \left\{ \frac{2\pi s}{\lambda} \frac{W_1(x) - W_1(x-s)}{s} \right\} \right]$$

$$\approx 2 \left[1 + \cos \left\{ \frac{2\pi s}{\lambda} \frac{\partial W}{\partial x} \right\} \right]$$

BRIGHT FRINGE $\Rightarrow \frac{2\pi s}{\lambda} \frac{\partial W}{\partial x} = 2m\pi$ OR $\frac{\partial W}{\partial x} = \frac{m\lambda}{s}$

DEFOCUS: $W(x,y) = D(x^2 + y^2) \Rightarrow$ BRIGHT FRINGE $x = \frac{m\lambda}{2Ds}$

SPHERICAL: $W(x,y) = A(x^2 + y^2)^2 \Rightarrow$ " " " $4Ax(x^2 + y^2) = \frac{m\lambda}{s}$
-cubic-

MURTY PLATE: ADD TILT IN y DIRECTION

$$I(x) = 2 \left[1 + \cos \left\{ \frac{2\pi s}{\lambda} \frac{\partial W(x)}{\partial x} + \frac{2\pi}{\lambda} C_y \right\} \right]$$

BRIGHT FRINGE $\Rightarrow \frac{2\pi}{\lambda} \left[s \frac{\partial W(x)}{\partial x} + C_y \right] = 2m\pi$

OR $s \frac{\partial W(x)}{\partial x} + C_y = m\lambda$

DEFOCUS $\Rightarrow y = -\frac{2Ds}{C} x + \frac{m\lambda}{C}$