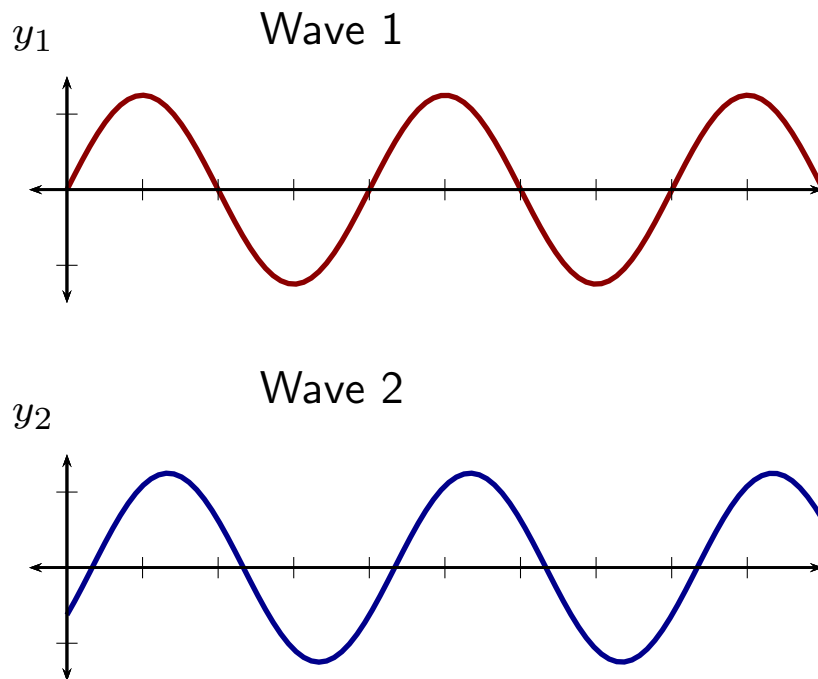
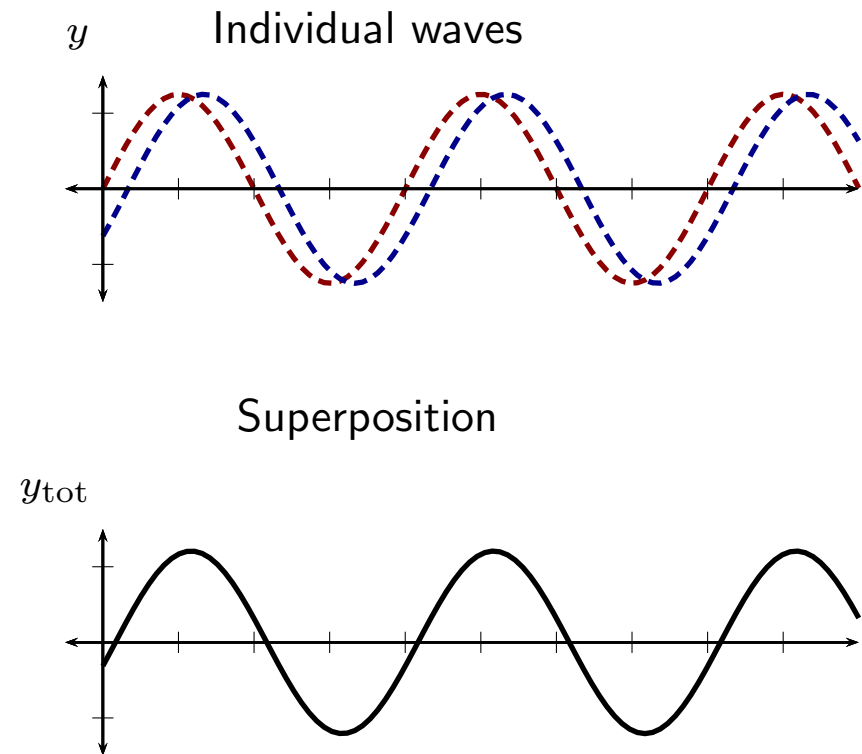


Single Slit Interference I

Snapshots of two waves at $t = 0$ s in the same medium are illustrated. The shift of one relative to the other is $\lambda/12$.

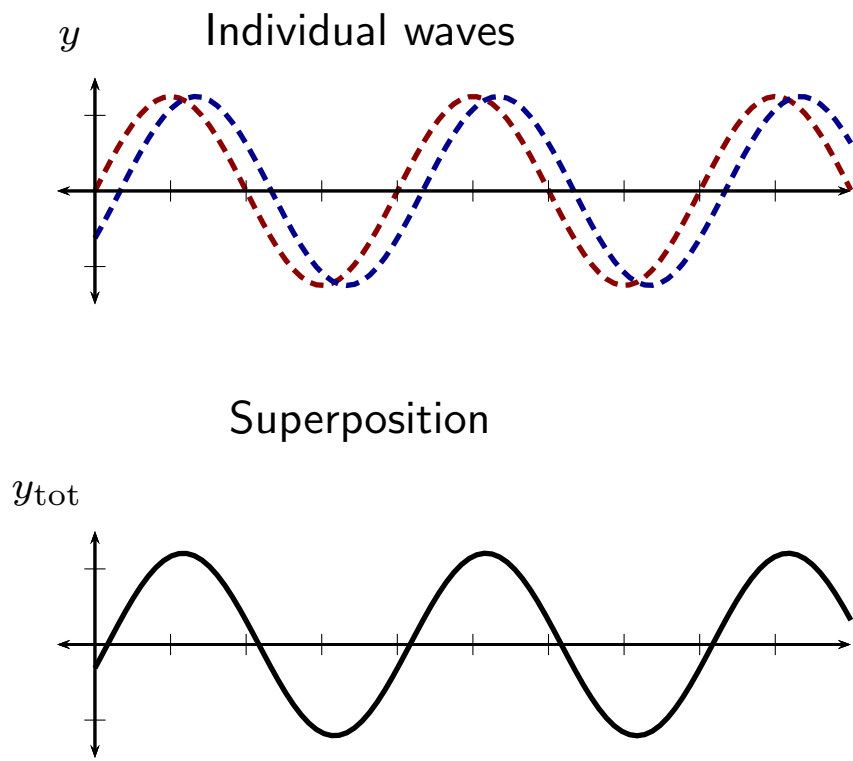


The superposition of the two waves is:

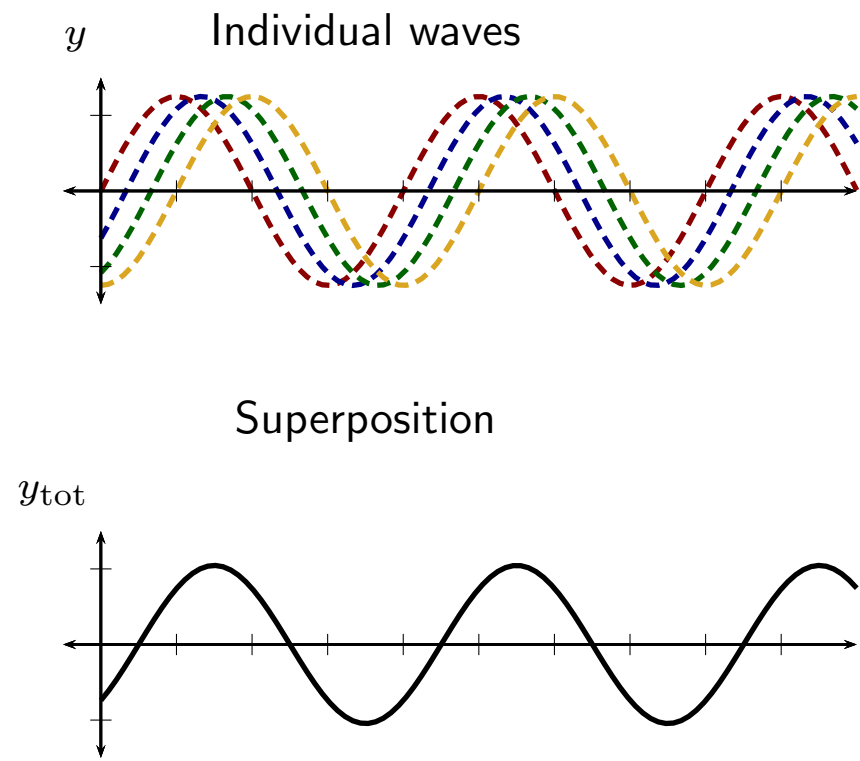


Single Slit Interference II

Interference of two waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.

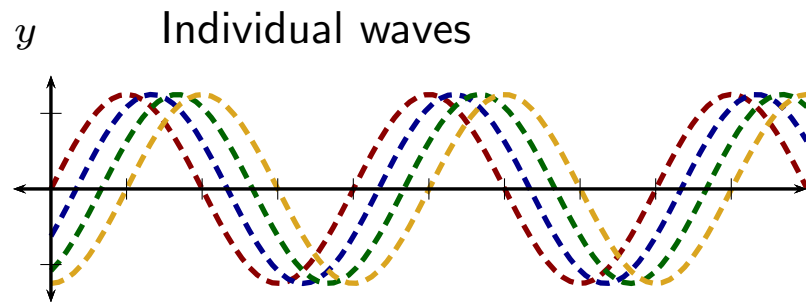


Interference of four waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.

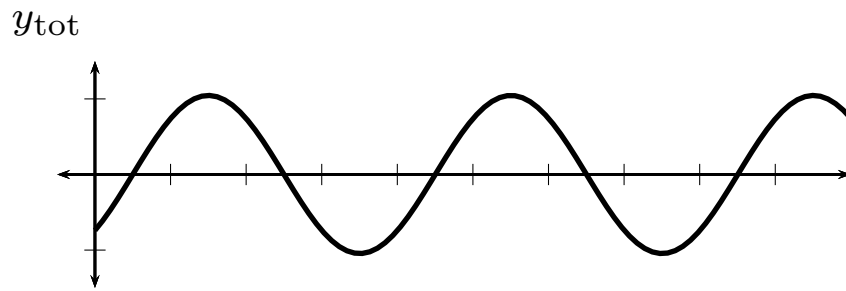


Single Slit Interference III

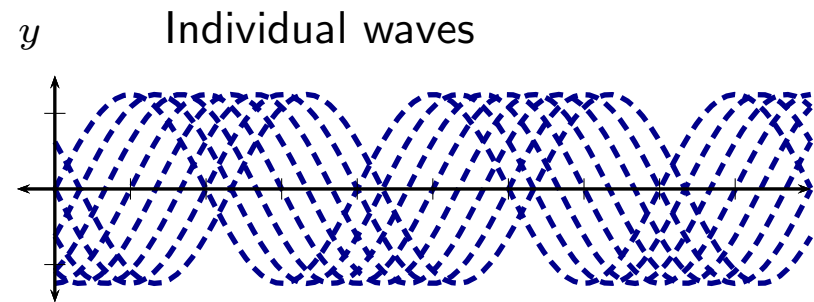
Interference of four waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.



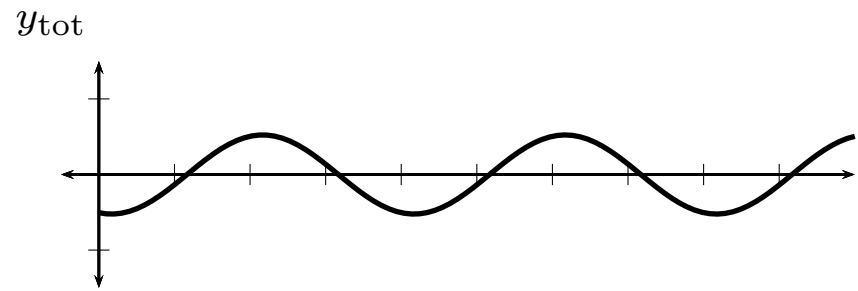
Superposition



Interference of eight waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.

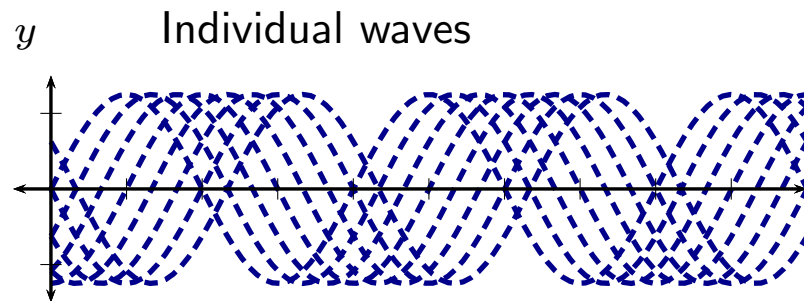


Superposition

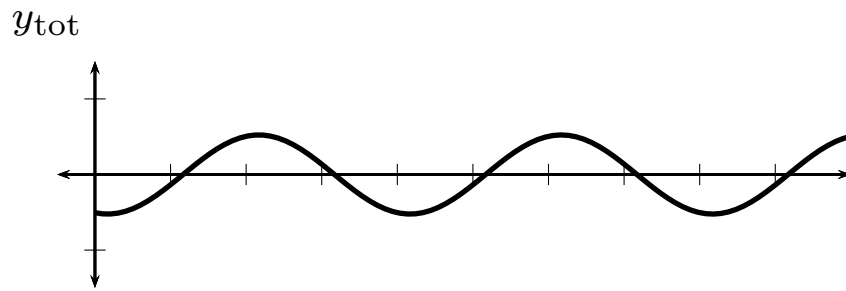


Single Slit Interference IV

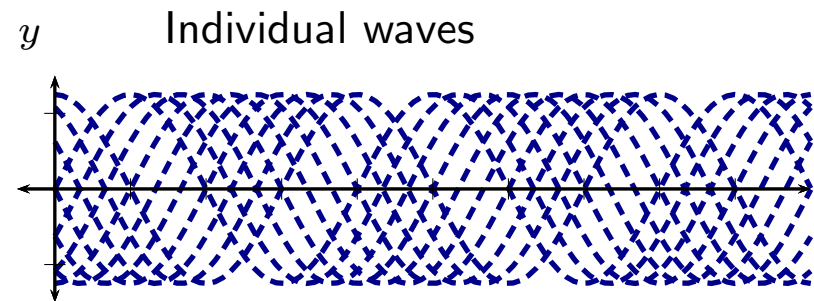
Interference of eight waves at $t = 0$ s in the same medium whose successive whose successive shifts are $\lambda/12$.



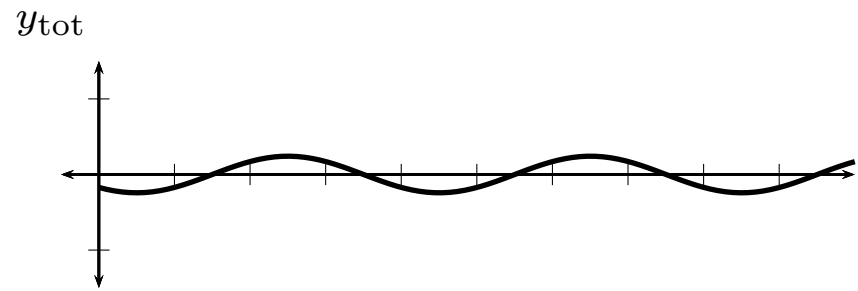
Superposition



Interference of ten waves at $t = 0$ s in the same medium whose successive whose successive shifts are $\lambda/12$.

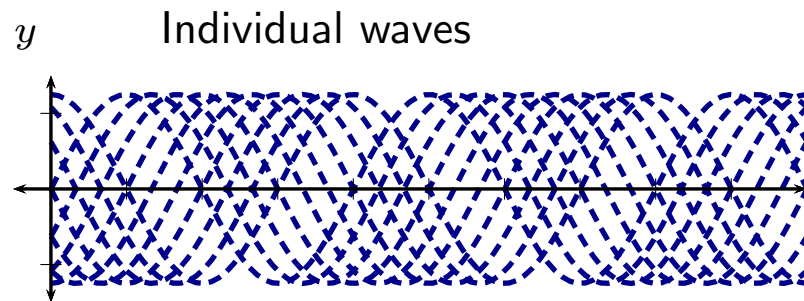


Superposition

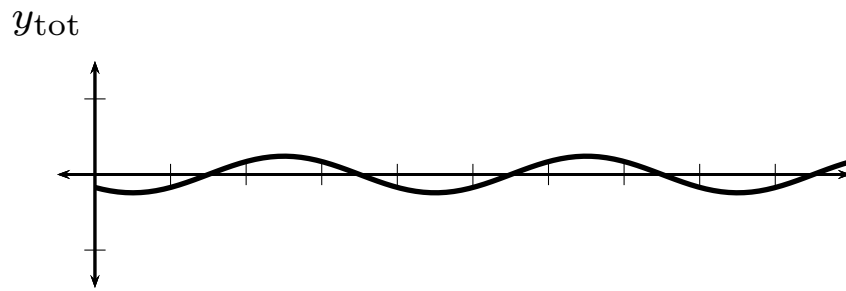


Single Slit Interference V

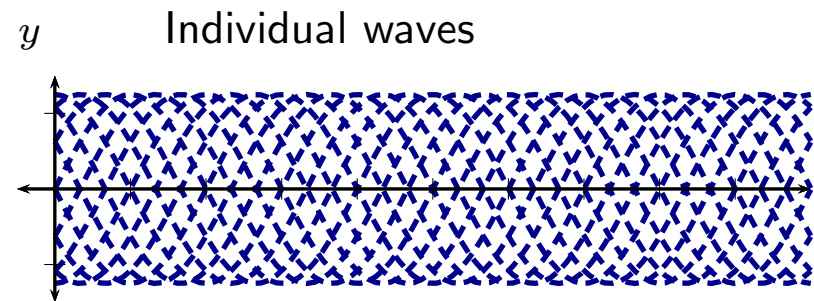
Interference of ten waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.



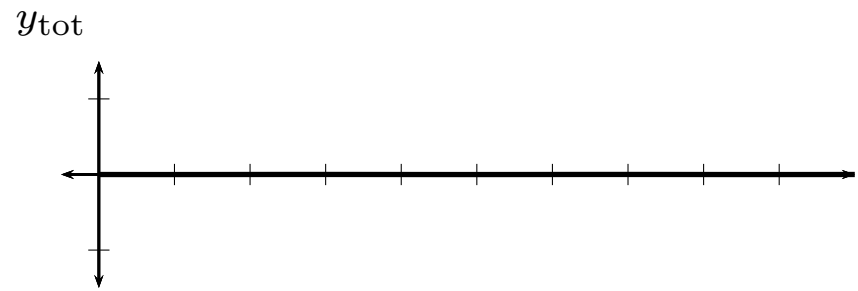
Superposition



Interference of twelve waves at $t = 0$ s in the same medium whose successive shifts are $\lambda/12$.



Superposition



Question 1

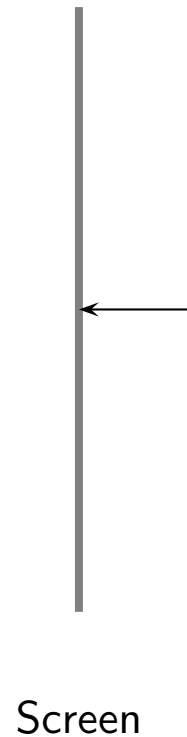
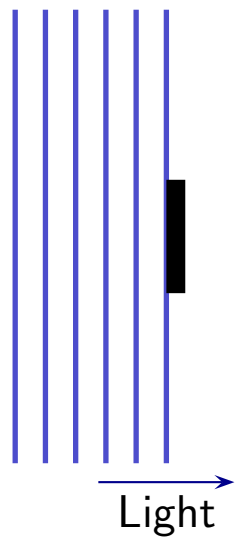
Light passes through a single slit whose width can be varied.

As the slit width is decreased, what happens.

1. The central maximum narrows.
2. The central maximum widens.
3. The central maximum stays the same width but more dark fringes appear.
4. The central maximum stays the same width but fewer dark fringes appear.
5. Nothing changes except for the brightness of the central maximum.

Question 2

Monochromatic light is incident on a small disk-shaped barrier.



The disk will produce a shadow. The center of this area (marked by an arrow) is:

1. a bright spot,
2. darker than the rest of the shadow,
3. slightly lighter than the rest of the shadow,
4. bright or dark depending on the distance between the screen and the disk.