## Answer on Question \#63726, Physics / Optics

## Question:

In a biprism expt., the distance of 20th bright band from centre of interference pattern is 8 mm . Calculate distance of 30 th bright band from centre.

## Solution:

Here is the scheme for this experiment:


The source of light $C$ is a narrow slit. The angle $\alpha$ is very small and the interference occurs from two imaginary sources, $C^{\prime}$ and $C^{\prime \prime}$.

Let $h$ be the distance between imaginary sources, $L$ - the distance from the slit to the screen, $X$ - the distance of the $\mathrm{n}^{\text {th }}$ bright band from the centre, and $\lambda$ - wavelength of the light.

These parameters connected by this relation:

For $20^{\text {th }}$ bright band - For $30^{\text {th }}$ bright band - .

We may express unknown parameters this way: - - , and insert it into second formula:

$$
m m
$$

## Answer:

