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Young's double-slit experiment

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The aim with this experiment is to measure the wavelength, λ, of a laser, with the help of Young's double-slit experiment. The method is a basic use of the phenomena called interference of light, that is, when the light pass through a small hole the light-waves will "split up". When two holes are located close to each other and the light hits a screen, there will occur dark and bright spots on the screen. If you can measure the distance between the spots and the distance between the screen and the holes you can calculate the wavelength of the light. So here is the experiment:

When we lit the laser and the light passed through the slits, we saw spots on the whiteboard. We used a millimeter-paper to copy the bright spots, to make it easier to measure the distance. We then used the formula:

$d\sin\theta = m\lambda$

$$\sin\theta = \tan\theta = \frac{l}{D}$$

$$\frac{d \cdot l}{D} = m \cdot \lambda$$

$$\lambda = \frac{d \cdot l}{D \cdot m}$$

d = 0,3 mm
l = 12 mm
D = 5,69 m

Where D is the distance between the slits and the screen, l is the distance between the bright spots, and d is the distance between the slits. So, let's calculate:

$$\lambda = \frac{0.3 \cdot 10^{-3} \cdot 12 \cdot 10^{-3}}{5{,}69 \cdot 1} = 6{,}33 \cdot 10^{-7} = 633nm$$

So, the wavelength of the light is 633nm, and that is probably close to the correct answer since the color of the laser was red.