Answer on Question #68045, Physics / Optics

Calculate the refractive index of the material of an equilateral prism forest the angle of minimum deviation is 60 degree

Solution:

The refractive index of the material: $n = \dfrac{\sin\left(\frac{A+D}{2}\right)}{\sin\frac{A}{2}}$ (1), where A is the apex angle for a prism, D is the minimum angle of deviation

For equilateral prism: A=60°, in task: D=60°

Of (1) $\Rightarrow$ n $= \dfrac{\sin\left(\frac{60°+60°}{2}\right)}{\sin\frac{60°}{2}} = 1.732$

Answer:

1.732