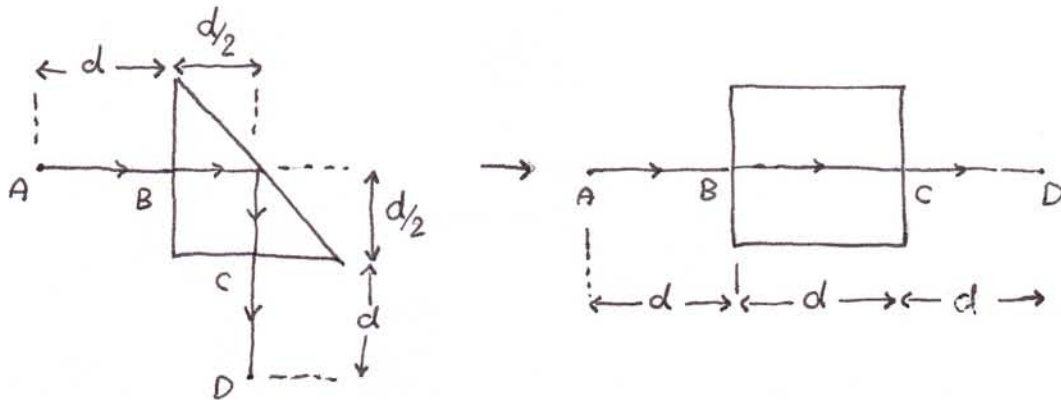


* Following our discussion in the review session, let's see what happens when light travels through one of the prisms in the Quiz I of 2012.



Therefore,

$$\begin{pmatrix} 1 & d \\ 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 \\ 0 & n \end{pmatrix} \begin{pmatrix} 1 & d \\ 0 & 1 \end{pmatrix} \begin{pmatrix} 1 & 0 \\ 0 & 1/n \end{pmatrix} \begin{pmatrix} 1 & d \\ 0 & 1 \end{pmatrix} = \begin{pmatrix} 1 & 2d + d/n \\ 0 & 1 \end{pmatrix}$$

As seen, the overall distance traveled by light is a summation of the distance traveled in the air ($2d$) plus that of the prism divided by its refractive index.

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