

48. We use the law of refraction (assuming $n_{\text{air}} = 1$) and the law of sines to determine the paths of various light rays. The index of refraction for fused quartz can be found in Fig. 34-19. We estimate $n_{\text{blue}} = 1.463$, $n_{\text{y g}} = 1.459$, and $n_{\text{red}} = 1.456$. The light rays as they leave the prism (from the right side of the prism shown below) are very close together; on the scale we used below, the individual rays are difficult to resolve. Measured from the surface of the prism (at the face from which they emerge from the prism) their angles are $\theta_{\text{blue}} = 28.51^\circ$, $\theta_{\text{y g}} = 28.95^\circ$, and $\theta_{\text{red}} = 29.29^\circ$. The angle between the incident rays (on the left side of the picture) and the dashed line (the axis normal to the left face of the prism) is 35° .

