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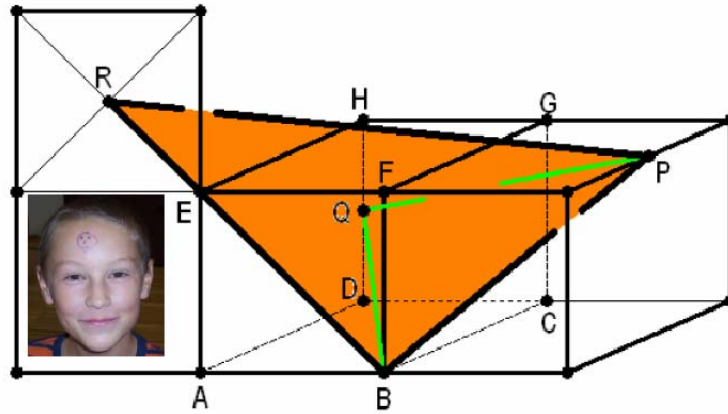
$$A(0|0|0)$$

$$B(2|0|0)$$

$$P(4|1|2)$$

$$Q(0|2|1)$$

$$R(-1|0|3)$$



$\mathcal{E}_{BPR}$  :

$$\overrightarrow{BP} = \begin{pmatrix} 2 \\ 1 \\ 2 \end{pmatrix}$$

$$\overrightarrow{BR} = \begin{pmatrix} -3 \\ 0 \\ 3 \end{pmatrix} \parallel \begin{pmatrix} -1 \\ 0 \\ 1 \end{pmatrix}$$

$$\Rightarrow \overrightarrow{n_{\mathcal{E}_{BPR}}} \parallel \begin{pmatrix} 2 \\ 1 \\ 2 \end{pmatrix} \times \begin{pmatrix} -1 \\ 0 \\ 1 \end{pmatrix} = \begin{pmatrix} 1 \\ -4 \\ 1 \end{pmatrix}$$

$\mathcal{E}_{BPQ}$ :

$$\overrightarrow{BP} = \begin{pmatrix} 2 \\ 1 \\ 2 \end{pmatrix}$$

$$\overrightarrow{BQ} = \begin{pmatrix} -2 \\ 2 \\ 1 \end{pmatrix}$$

$$\Rightarrow \overrightarrow{n_{\mathcal{E}_{BPQ}}} \parallel \begin{pmatrix} 2 \\ 1 \\ 2 \end{pmatrix} \times \begin{pmatrix} -2 \\ 2 \\ 1 \end{pmatrix} = \begin{pmatrix} -3 \\ -6 \\ 6 \end{pmatrix}$$

$\varphi = \angle(\mathcal{E}_{BPQ}, \mathcal{E}_{BPR})$

$$\cos \varphi = \frac{\begin{pmatrix} -3 \\ -6 \\ 6 \end{pmatrix} \cdot \begin{pmatrix} 1 \\ -4 \\ 1 \end{pmatrix}}{\left\| \begin{pmatrix} 1 \\ 2 \\ -2 \end{pmatrix} \right\| \cdot \left\| \begin{pmatrix} 1 \\ -4 \\ 1 \end{pmatrix} \right\|} = \frac{-3 + 24 + 6}{\sqrt{9} \cdot \sqrt{18}} = \frac{27}{9 \cdot \sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$\Rightarrow \varphi = 45^\circ$$