

$$\boxed{55} \quad BX = \begin{bmatrix} \frac{\sqrt{3}}{2} & -\frac{1}{2} & 0 \\ \frac{1}{2} & \frac{\sqrt{3}}{2} & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} \sqrt{3} \\ 1 \\ 1 \end{bmatrix} = \begin{bmatrix} 1 \\ \sqrt{3} \\ 1 \end{bmatrix} \approx \begin{bmatrix} 1 \\ 1.732 \\ 1 \end{bmatrix}. \quad \text{The new location is } (1, \sqrt{3}).$$