

$$1. \hat{\mathbf{a}} = \frac{1}{\sqrt{170}} \begin{pmatrix} 5 \\ -9 \\ 8 \end{pmatrix}$$

$$2. \hat{\mathbf{a}} = \frac{1}{3 \times \sqrt{6}} \begin{pmatrix} 1 \\ -2 \\ -7 \end{pmatrix}$$

$$3. \hat{\mathbf{a}} = \frac{1}{\sqrt{83}} \begin{pmatrix} 7 \\ 5 \\ -3 \end{pmatrix}$$

$$4. \hat{\mathbf{a}} = \frac{1}{\sqrt{41}} \begin{pmatrix} -1 \\ 6 \\ -2 \end{pmatrix}$$

$$5. \hat{\mathbf{a}} = \frac{1}{\sqrt{35}} \begin{pmatrix} 1 \\ -5 \\ -3 \end{pmatrix}$$