Special Problem 2-4.11

Consider a vector **A**, written in terms of orthonormal base vectors $\hat{i}, \hat{j}, \hat{k}$:

$$A = 2\hat{i} - 2\hat{j} + \sqrt{2}\,\hat{k}$$

Rewrite vector **A** in terms of a **new** set of orthonormal base vectors $\hat{a}, \hat{b}, \hat{c}$, where the **angles** between the two sets of base vectors are given in the table below:

	$\hat{i}$	$\hat{j}$	$\hat{k}$
$\hat{a}$	60°	120°	135°
$\hat{b}$	60°	120°	45°
$\hat{c}$	135°	135°	90°

For example: