Orthorhombic 2-4-6 Trinitrotoluene ($C_7H_5N_3O_6$) Structure: A7B5C3D6_oP168_29_14a_10a_6a_12a-001

Cite this page as: H. Eckert, S. Divilov, A. Zettel, M. J. Mehl, D. Hicks, and S. Curtarolo, *The AFLOW Library of Crystallographic Prototypes: Part 4*. In preparation.

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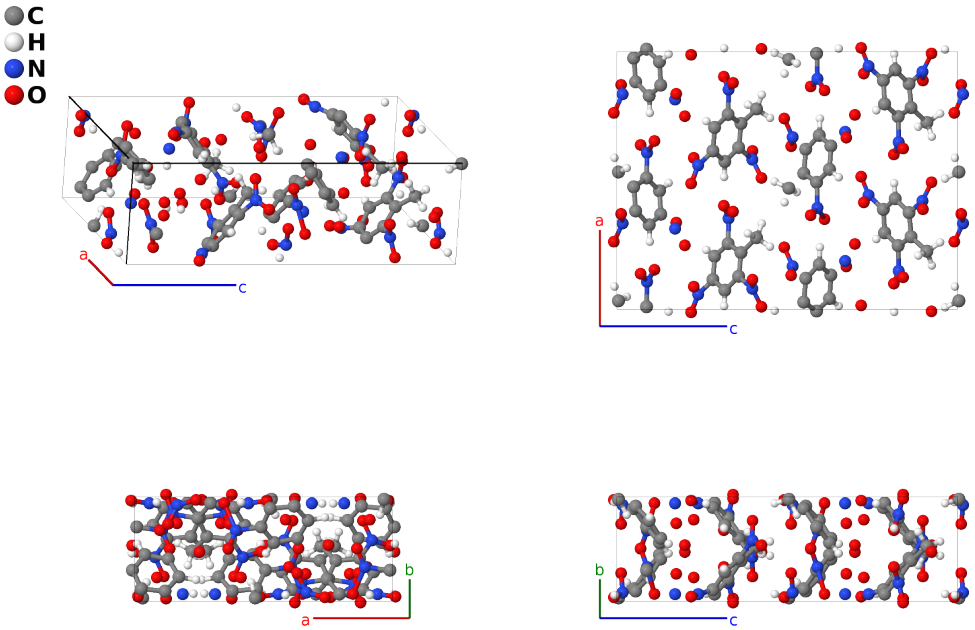
https://aflow.org/p/EY4Y

https://aflow.org/p/A7B5C3D6_oP168_29_14a_10a_6a_12a-001



Prototype	$C_7H_5N_3O_6$
AFLOW prototype label	A7B5C3D6_oP168_29_14a_10a_6a_12a-001
Mineral name	2-4-6 trinitrotoluene
CCDC	227800
Pearson symbol	oP168
Space group number	29
Space group symbol	$Pca2_1$
AFLOW prototype command	`aflow --proto=A7B5C3D6_oP168_29_14a_10a_6a_12a-001` `--params=`$a, b/a, c/a, x_1, y_1, z_1, x_2, y_2, z_2, x_3, y_3, z_3, x_4, y_4, z_4, x_5, y_5, z_5, x_6, y_6, z_6, x_7, y_7, z_7, x_8, y_8, z_8, x_9, y_9, z_9, x_{10}, y_{10}, z_{10}, x_{11}, y_{11}, z_{11}, x_{12}, y_{12}, z_{12}, x_{13}, y_{13}, z_{13}, x_{14}, y_{14}, z_{14}, x_{15}, y_{15}, z_{15}, x_{16}, y_{16}, z_{16}, x_{17}, y_{17}, z_{17}, x_{18}, y_{18}, z_{18}, x_{19}, y_{19}, z_{19}, x_{20}, y_{20}, z_{20}, x_{21}, y_{21}, z_{21}, x_{22}, y_{22}, z_{22}, x_{23}, y_{23}, z_{23}, x_{24}, y_{24}, z_{24}, x_{25}, y_{25}, z_{25}, x_{26}, y_{26}, z_{26}, x_{27}, y_{27}, z_{27}, x_{28}, y_{28}, z_{28}, x_{29}, y_{29}, z_{29}, x_{30}, y_{30}, z_{30}, x_{31}, y_{31}, z_{31}, x_{32}, y_{32}, z_{32}, x_{33}, y_{33}, z_{33}, x_{34}, y_{34}, z_{34}, x_{35}, y_{35}, z_{35}, x_{36}, y_{36}, z_{36}, x_{37}, y_{37}, z_{37}, x_{38}, y_{38}, z_{38}, x_{39}, y_{39}, z_{39}, x_{40}, y_{40}, z_{40}, x_{41}, y_{41}, z_{41}, x_{42}, y_{42}, z_{42}$

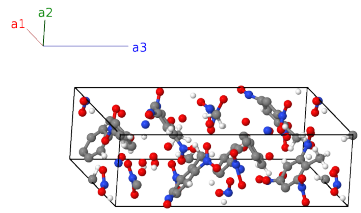
- The solid form of 2-4-6 Trinitrotoluene (TNT) has two polymorphs (Vrcelj, 2003):

- The low temperature monoclinic structure, and
- this somewhat higher temperature orthorhombic structure.

- Both can be prepared at room temperature, from ethyl acetate and ethanol solutions, respectively.
- Data for the orthorhombic phase was taken at 123K.

Simple Orthorhombic primitive vectors

$$\mathbf{a_1} = a\,\hat{\mathbf{x}}$$
$$\mathbf{a_2} = b\,\hat{\mathbf{y}}$$
$$\mathbf{a_3} = c\,\hat{\mathbf{z}}$$



Basis vectors

		Lattice coordinates		Cartesian coordinates	Wyckoff position	Atom type
$\mathbf{B_1}$	=	$x_1\,\mathbf{a}_1 + y_1\,\mathbf{a}_2 + z_1\,\mathbf{a}_3$	=	$ax_1\,\hat{\mathbf{x}} + by_1\,\hat{\mathbf{y}} + cz_1\,\hat{\mathbf{z}}$	(4a)	C I
$\mathbf{B_2}$	=	$-x_1\,\mathbf{a}_1 - y_1\,\mathbf{a}_2 + \left(z_1 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_1\,\hat{\mathbf{x}} - by_1\,\hat{\mathbf{y}} + c\left(z_1 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C I
$\mathbf{B_3}$	=	$\left(x_1 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_1\,\mathbf{a}_2 + z_1\,\mathbf{a}_3$	=	$a\left(x_1 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - by_1\,\hat{\mathbf{y}} + cz_1\,\hat{\mathbf{z}}$	(4a)	C I
$\mathbf{B_4}$	=	$-\left(x_1 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_1\,\mathbf{a}_2 + \left(z_1 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_1 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + by_1\,\hat{\mathbf{y}} + c\left(z_1 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C I
$\mathbf{B_5}$	=	$x_2\,\mathbf{a}_1 + y_2\,\mathbf{a}_2 + z_2\,\mathbf{a}_3$	=	$ax_2\,\hat{\mathbf{x}} + by_2\,\hat{\mathbf{y}} + cz_2\,\hat{\mathbf{z}}$	(4a)	C II
$\mathbf{B_6}$	=	$-x_2\,\mathbf{a}_1 - y_2\,\mathbf{a}_2 + \left(z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_2\,\hat{\mathbf{x}} - by_2\,\hat{\mathbf{y}} + c\left(z_2 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C II
$\mathbf{B_7}$	=	$\left(x_2 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_2\,\mathbf{a}_2 + z_2\,\mathbf{a}_3$	=	$a\left(x_2 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - by_2\,\hat{\mathbf{y}} + cz_2\,\hat{\mathbf{z}}$	(4a)	C II
$\mathbf{B_8}$	=	$-\left(x_2 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_2\,\mathbf{a}_2 + \left(z_2 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_2 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + by_2\,\hat{\mathbf{y}} + c\left(z_2 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C II
$\mathbf{B_9}$	=	$x_3\,\mathbf{a}_1 + y_3\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$ax_3\,\hat{\mathbf{x}} + by_3\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$	(4a)	C III
$\mathbf{B_{10}}$	=	$-x_3\,\mathbf{a}_1 - y_3\,\mathbf{a}_2 + \left(z_3 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_3\,\hat{\mathbf{x}} - by_3\,\hat{\mathbf{y}} + c\left(z_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C III
$\mathbf{B_{11}}$	=	$\left(x_3 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_3\,\mathbf{a}_2 + z_3\,\mathbf{a}_3$	=	$a\left(x_3 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - by_3\,\hat{\mathbf{y}} + cz_3\,\hat{\mathbf{z}}$	(4a)	C III
$\mathbf{B_{12}}$	=	$-\left(x_3 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_3\,\mathbf{a}_2 + \left(z_3 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_3 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + by_3\,\hat{\mathbf{y}} + c\left(z_3 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C III
$\mathbf{B_{13}}$	=	$x_4\,\mathbf{a}_1 + y_4\,\mathbf{a}_2 + z_4\,\mathbf{a}_3$	=	$ax_4\,\hat{\mathbf{x}} + by_4\,\hat{\mathbf{y}} + cz_4\,\hat{\mathbf{z}}$	(4a)	C IV
$\mathbf{B_{14}}$	=	$-x_4\,\mathbf{a}_1 - y_4\,\mathbf{a}_2 + \left(z_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_4\,\hat{\mathbf{x}} - by_4\,\hat{\mathbf{y}} + c\left(z_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C IV
$\mathbf{B_{15}}$	=	$\left(x_4 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_4\,\mathbf{a}_2 + z_4\,\mathbf{a}_3$	=	$a\left(x_4 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - by_4\,\hat{\mathbf{y}} + cz_4\,\hat{\mathbf{z}}$	(4a)	C IV
$\mathbf{B_{16}}$	=	$-\left(x_4 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_4\,\mathbf{a}_2 + \left(z_4 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_4 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + by_4\,\hat{\mathbf{y}} + c\left(z_4 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C IV
$\mathbf{B_{17}}$	=	$x_5\,\mathbf{a}_1 + y_5\,\mathbf{a}_2 + z_5\,\mathbf{a}_3$	=	$ax_5\,\hat{\mathbf{x}} + by_5\,\hat{\mathbf{y}} + cz_5\,\hat{\mathbf{z}}$	(4a)	C V
$\mathbf{B_{18}}$	=	$-x_5\,\mathbf{a}_1 - y_5\,\mathbf{a}_2 + \left(z_5 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-ax_5\,\hat{\mathbf{x}} - by_5\,\hat{\mathbf{y}} + c\left(z_5 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C V
$\mathbf{B_{19}}$	=	$\left(x_5 + \frac{1}{2}\right)\,\mathbf{a}_1 - y_5\,\mathbf{a}_2 + z_5\,\mathbf{a}_3$	=	$a\left(x_5 + \frac{1}{2}\right)\,\hat{\mathbf{x}} - by_5\,\hat{\mathbf{y}} + cz_5\,\hat{\mathbf{z}}$	(4a)	C V
$\mathbf{B_{20}}$	=	$-\left(x_5 - \frac{1}{2}\right)\,\mathbf{a}_1 + y_5\,\mathbf{a}_2 + \left(z_5 + \frac{1}{2}\right)\,\mathbf{a}_3$	=	$-a\left(x_5 - \frac{1}{2}\right)\,\hat{\mathbf{x}} + by_5\,\hat{\mathbf{y}} + c\left(z_5 + \frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C V
$\mathbf{B_{21}}$	=	$x_6\,\mathbf{a}_1 + y_6\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	=	$ax_6\,\hat{\mathbf{x}} + by_6\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(4a)	C VI

$\mathbf{B_{22}}$	$=$	$-x_6\,\mathbf{a}_1 - y_6\,\mathbf{a}_2 + \left(z_6+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_6\,\hat{\mathbf{x}} - by_6\,\hat{\mathbf{y}} + c\left(z_6+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VI
$\mathbf{B_{23}}$	$=$	$\left(x_6+\frac{1}{2}\right)\,\mathbf{a}_1 - y_6\,\mathbf{a}_2 + z_6\,\mathbf{a}_3$	$=$	$a\left(x_6+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_6\,\hat{\mathbf{y}} + cz_6\,\hat{\mathbf{z}}$	(4a)	C VI
$\mathbf{B_{24}}$	$=$	$-\left(x_6-\frac{1}{2}\right)\,\mathbf{a}_1 + y_6\,\mathbf{a}_2 + \left(z_6+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_6-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_6\,\hat{\mathbf{y}} + c\left(z_6+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VI
$\mathbf{B_{25}}$	$=$	$x_7\,\mathbf{a}_1 + y_7\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	$=$	$ax_7\,\hat{\mathbf{x}} + by_7\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(4a)	C VII
$\mathbf{B_{26}}$	$=$	$-x_7\,\mathbf{a}_1 - y_7\,\mathbf{a}_2 + \left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_7\,\hat{\mathbf{x}} - by_7\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VII
$\mathbf{B_{27}}$	$=$	$\left(x_7+\frac{1}{2}\right)\,\mathbf{a}_1 - y_7\,\mathbf{a}_2 + z_7\,\mathbf{a}_3$	$=$	$a\left(x_7+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_7\,\hat{\mathbf{y}} + cz_7\,\hat{\mathbf{z}}$	(4a)	C VII
$\mathbf{B_{28}}$	$=$	$-\left(x_7-\frac{1}{2}\right)\,\mathbf{a}_1 + y_7\,\mathbf{a}_2 + \left(z_7+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_7-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_7\,\hat{\mathbf{y}} + c\left(z_7+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VII
$\mathbf{B_{29}}$	$=$	$x_8\,\mathbf{a}_1 + y_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	$=$	$ax_8\,\hat{\mathbf{x}} + by_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(4a)	C VIII
$\mathbf{B_{30}}$	$=$	$-x_8\,\mathbf{a}_1 - y_8\,\mathbf{a}_2 + \left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_8\,\hat{\mathbf{x}} - by_8\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VIII
$\mathbf{B_{31}}$	$=$	$\left(x_8+\frac{1}{2}\right)\,\mathbf{a}_1 - y_8\,\mathbf{a}_2 + z_8\,\mathbf{a}_3$	$=$	$a\left(x_8+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_8\,\hat{\mathbf{y}} + cz_8\,\hat{\mathbf{z}}$	(4a)	C VIII
$\mathbf{B_{32}}$	$=$	$-\left(x_8-\frac{1}{2}\right)\,\mathbf{a}_1 + y_8\,\mathbf{a}_2 + \left(z_8+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_8-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_8\,\hat{\mathbf{y}} + c\left(z_8+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C VIII
$\mathbf{B_{33}}$	$=$	$x_9\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	$=$	$ax_9\,\hat{\mathbf{x}} + by_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(4a)	C IX
$\mathbf{B_{34}}$	$=$	$-x_9\,\mathbf{a}_1 - y_9\,\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_9\,\hat{\mathbf{x}} - by_9\,\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C IX
$\mathbf{B_{35}}$	$=$	$\left(x_9+\frac{1}{2}\right)\,\mathbf{a}_1 - y_9\,\mathbf{a}_2 + z_9\,\mathbf{a}_3$	$=$	$a\left(x_9+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_9\,\hat{\mathbf{y}} + cz_9\,\hat{\mathbf{z}}$	(4a)	C IX
$\mathbf{B_{36}}$	$=$	$-\left(x_9-\frac{1}{2}\right)\,\mathbf{a}_1 + y_9\,\mathbf{a}_2 + \left(z_9+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_9-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_9\,\hat{\mathbf{y}} + c\left(z_9+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C IX
$\mathbf{B_{37}}$	$=$	$x_{10}\,\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3$	$=$	$ax_{10}\,\hat{\mathbf{x}} + by_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}}$	(4a)	C X
$\mathbf{B_{38}}$	$=$	$-x_{10}\,\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{10}\,\hat{\mathbf{x}} - by_{10}\,\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C X
$\mathbf{B_{39}}$	$=$	$\left(x_{10}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{10}\,\mathbf{a}_2 + z_{10}\,\mathbf{a}_3$	$=$	$a\left(x_{10}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{10}\,\hat{\mathbf{y}} + cz_{10}\,\hat{\mathbf{z}}$	(4a)	C X
$\mathbf{B_{40}}$	$=$	$-\left(x_{10}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{10}\,\mathbf{a}_2 + \left(z_{10}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{10}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{10}\,\hat{\mathbf{y}} + c\left(z_{10}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C X
$\mathbf{B_{41}}$	$=$	$x_{11}\,\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3$	$=$	$ax_{11}\,\hat{\mathbf{x}} + by_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}}$	(4a)	C XI
$\mathbf{B_{42}}$	$=$	$-x_{11}\,\mathbf{a}_1 - y_{11}\,\mathbf{a}_2 + \left(z_{11}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{11}\,\hat{\mathbf{x}} - by_{11}\,\hat{\mathbf{y}} + c\left(z_{11}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XI
$\mathbf{B_{43}}$	$=$	$\left(x_{11}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{11}\,\mathbf{a}_2 + z_{11}\,\mathbf{a}_3$	$=$	$a\left(x_{11}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{11}\,\hat{\mathbf{y}} + cz_{11}\,\hat{\mathbf{z}}$	(4a)	C XI
$\mathbf{B_{44}}$	$=$	$-\left(x_{11}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{11}\,\mathbf{a}_2 + \left(z_{11}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{11}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{11}\,\hat{\mathbf{y}} + c\left(z_{11}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XI
$\mathbf{B_{45}}$	$=$	$x_{12}\,\mathbf{a}_1 + y_{12}\,\mathbf{a}_2 + z_{12}\,\mathbf{a}_3$	$=$	$ax_{12}\,\hat{\mathbf{x}} + by_{12}\,\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}}$	(4a)	C XII
$\mathbf{B_{46}}$	$=$	$-x_{12}\,\mathbf{a}_1 - y_{12}\,\mathbf{a}_2 + \left(z_{12}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{12}\,\hat{\mathbf{x}} - by_{12}\,\hat{\mathbf{y}} + c\left(z_{12}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XII
$\mathbf{B_{47}}$	$=$	$\left(x_{12}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{12}\,\mathbf{a}_2 + z_{12}\,\mathbf{a}_3$	$=$	$a\left(x_{12}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{12}\,\hat{\mathbf{y}} + cz_{12}\,\hat{\mathbf{z}}$	(4a)	C XII
$\mathbf{B_{48}}$	$=$	$-\left(x_{12}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{12}\,\mathbf{a}_2 + \left(z_{12}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{12}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{12}\,\hat{\mathbf{y}} + c\left(z_{12}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XII
$\mathbf{B_{49}}$	$=$	$x_{13}\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3$	$=$	$ax_{13}\,\hat{\mathbf{x}} + by_{13}\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}}$	(4a)	C XIII
$\mathbf{B_{50}}$	$=$	$-x_{13}\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 + \left(z_{13}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{13}\,\hat{\mathbf{x}} - by_{13}\,\hat{\mathbf{y}} + c\left(z_{13}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XIII
$\mathbf{B_{51}}$	$=$	$\left(x_{13}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{13}\,\mathbf{a}_2 + z_{13}\,\mathbf{a}_3$	$=$	$a\left(x_{13}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{13}\,\hat{\mathbf{y}} + cz_{13}\,\hat{\mathbf{z}}$	(4a)	C XIII
$\mathbf{B_{52}}$	$=$	$-\left(x_{13}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{13}\,\mathbf{a}_2 + \left(z_{13}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{13}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{13}\,\hat{\mathbf{y}} + c\left(z_{13}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XIII
$\mathbf{B_{53}}$	$=$	$x_{14}\,\mathbf{a}_1 + y_{14}\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3$	$=$	$ax_{14}\,\hat{\mathbf{x}} + by_{14}\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}}$	(4a)	C XIV
$\mathbf{B_{54}}$	$=$	$-x_{14}\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 + \left(z_{14}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{14}\,\hat{\mathbf{x}} - by_{14}\,\hat{\mathbf{y}} + c\left(z_{14}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	C XIV
$\mathbf{B_{55}}$	$=$	$\left(x_{14}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{14}\,\mathbf{a}_2 + z_{14}\,\mathbf{a}_3$	$=$	$a\left(x_{14}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{14}\,\hat{\mathbf{y}} + cz_{14}\,\hat{\mathbf{z}}$	(4a)	C XIV

$\mathbf{B_{56}}$	$=$	$-\left(x_{14}-\frac{1}{2}\right)\mathbf{a}_1+y_{14}\mathbf{a}_2+\left(z_{14}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{14}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{14}\hat{\mathbf{y}}+c\left(z_{14}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	C XIV
$\mathbf{B_{57}}$	$=$	$x_{15}\mathbf{a}_1+y_{15}\mathbf{a}_2+z_{15}\mathbf{a}_3$	$=$	$ax_{15}\hat{\mathbf{x}}+by_{15}\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}}$	(4a)	H I
$\mathbf{B_{58}}$	$=$	$-x_{15}\mathbf{a}_1-y_{15}\mathbf{a}_2+\left(z_{15}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{15}\hat{\mathbf{x}}-by_{15}\hat{\mathbf{y}}+c\left(z_{15}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H I
$\mathbf{B_{59}}$	$=$	$\left(x_{15}+\frac{1}{2}\right)\mathbf{a}_1-y_{15}\mathbf{a}_2+z_{15}\mathbf{a}_3$	$=$	$a\left(x_{15}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{15}\hat{\mathbf{y}}+cz_{15}\hat{\mathbf{z}}$	(4a)	H I
$\mathbf{B_{60}}$	$=$	$-\left(x_{15}-\frac{1}{2}\right)\mathbf{a}_1+y_{15}\mathbf{a}_2+\left(z_{15}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{15}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{15}\hat{\mathbf{y}}+c\left(z_{15}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H I
$\mathbf{B_{61}}$	$=$	$x_{16}\mathbf{a}_1+y_{16}\mathbf{a}_2+z_{16}\mathbf{a}_3$	$=$	$ax_{16}\hat{\mathbf{x}}+by_{16}\hat{\mathbf{y}}+cz_{16}\hat{\mathbf{z}}$	(4a)	H II
$\mathbf{B_{62}}$	$=$	$-x_{16}\mathbf{a}_1-y_{16}\mathbf{a}_2+\left(z_{16}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{16}\hat{\mathbf{x}}-by_{16}\hat{\mathbf{y}}+c\left(z_{16}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H II
$\mathbf{B_{63}}$	$=$	$\left(x_{16}+\frac{1}{2}\right)\mathbf{a}_1-y_{16}\mathbf{a}_2+z_{16}\mathbf{a}_3$	$=$	$a\left(x_{16}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{16}\hat{\mathbf{y}}+cz_{16}\hat{\mathbf{z}}$	(4a)	H II
$\mathbf{B_{64}}$	$=$	$-\left(x_{16}-\frac{1}{2}\right)\mathbf{a}_1+y_{16}\mathbf{a}_2+\left(z_{16}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{16}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{16}\hat{\mathbf{y}}+c\left(z_{16}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H II
$\mathbf{B_{65}}$	$=$	$x_{17}\mathbf{a}_1+y_{17}\mathbf{a}_2+z_{17}\mathbf{a}_3$	$=$	$ax_{17}\hat{\mathbf{x}}+by_{17}\hat{\mathbf{y}}+cz_{17}\hat{\mathbf{z}}$	(4a)	H III
$\mathbf{B_{66}}$	$=$	$-x_{17}\mathbf{a}_1-y_{17}\mathbf{a}_2+\left(z_{17}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{17}\hat{\mathbf{x}}-by_{17}\hat{\mathbf{y}}+c\left(z_{17}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H III
$\mathbf{B_{67}}$	$=$	$\left(x_{17}+\frac{1}{2}\right)\mathbf{a}_1-y_{17}\mathbf{a}_2+z_{17}\mathbf{a}_3$	$=$	$a\left(x_{17}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{17}\hat{\mathbf{y}}+cz_{17}\hat{\mathbf{z}}$	(4a)	H III
$\mathbf{B_{68}}$	$=$	$-\left(x_{17}-\frac{1}{2}\right)\mathbf{a}_1+y_{17}\mathbf{a}_2+\left(z_{17}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{17}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{17}\hat{\mathbf{y}}+c\left(z_{17}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H III
$\mathbf{B_{69}}$	$=$	$x_{18}\mathbf{a}_1+y_{18}\mathbf{a}_2+z_{18}\mathbf{a}_3$	$=$	$ax_{18}\hat{\mathbf{x}}+by_{18}\hat{\mathbf{y}}+cz_{18}\hat{\mathbf{z}}$	(4a)	H IV
$\mathbf{B_{70}}$	$=$	$-x_{18}\mathbf{a}_1-y_{18}\mathbf{a}_2+\left(z_{18}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{18}\hat{\mathbf{x}}-by_{18}\hat{\mathbf{y}}+c\left(z_{18}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H IV
$\mathbf{B_{71}}$	$=$	$\left(x_{18}+\frac{1}{2}\right)\mathbf{a}_1-y_{18}\mathbf{a}_2+z_{18}\mathbf{a}_3$	$=$	$a\left(x_{18}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{18}\hat{\mathbf{y}}+cz_{18}\hat{\mathbf{z}}$	(4a)	H IV
$\mathbf{B_{72}}$	$=$	$-\left(x_{18}-\frac{1}{2}\right)\mathbf{a}_1+y_{18}\mathbf{a}_2+\left(z_{18}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{18}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{18}\hat{\mathbf{y}}+c\left(z_{18}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H IV
$\mathbf{B_{73}}$	$=$	$x_{19}\mathbf{a}_1+y_{19}\mathbf{a}_2+z_{19}\mathbf{a}_3$	$=$	$ax_{19}\hat{\mathbf{x}}+by_{19}\hat{\mathbf{y}}+cz_{19}\hat{\mathbf{z}}$	(4a)	H V
$\mathbf{B_{74}}$	$=$	$-x_{19}\mathbf{a}_1-y_{19}\mathbf{a}_2+\left(z_{19}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{19}\hat{\mathbf{x}}-by_{19}\hat{\mathbf{y}}+c\left(z_{19}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H V
$\mathbf{B_{75}}$	$=$	$\left(x_{19}+\frac{1}{2}\right)\mathbf{a}_1-y_{19}\mathbf{a}_2+z_{19}\mathbf{a}_3$	$=$	$a\left(x_{19}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{19}\hat{\mathbf{y}}+cz_{19}\hat{\mathbf{z}}$	(4a)	H V
$\mathbf{B_{76}}$	$=$	$-\left(x_{19}-\frac{1}{2}\right)\mathbf{a}_1+y_{19}\mathbf{a}_2+\left(z_{19}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{19}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{19}\hat{\mathbf{y}}+c\left(z_{19}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H V
$\mathbf{B_{77}}$	$=$	$x_{20}\mathbf{a}_1+y_{20}\mathbf{a}_2+z_{20}\mathbf{a}_3$	$=$	$ax_{20}\hat{\mathbf{x}}+by_{20}\hat{\mathbf{y}}+cz_{20}\hat{\mathbf{z}}$	(4a)	H VI
$\mathbf{B_{78}}$	$=$	$-x_{20}\mathbf{a}_1-y_{20}\mathbf{a}_2+\left(z_{20}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{20}\hat{\mathbf{x}}-by_{20}\hat{\mathbf{y}}+c\left(z_{20}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VI
$\mathbf{B_{79}}$	$=$	$\left(x_{20}+\frac{1}{2}\right)\mathbf{a}_1-y_{20}\mathbf{a}_2+z_{20}\mathbf{a}_3$	$=$	$a\left(x_{20}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{20}\hat{\mathbf{y}}+cz_{20}\hat{\mathbf{z}}$	(4a)	H VI
$\mathbf{B_{80}}$	$=$	$-\left(x_{20}-\frac{1}{2}\right)\mathbf{a}_1+y_{20}\mathbf{a}_2+\left(z_{20}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{20}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{20}\hat{\mathbf{y}}+c\left(z_{20}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VI
$\mathbf{B_{81}}$	$=$	$x_{21}\mathbf{a}_1+y_{21}\mathbf{a}_2+z_{21}\mathbf{a}_3$	$=$	$ax_{21}\hat{\mathbf{x}}+by_{21}\hat{\mathbf{y}}+cz_{21}\hat{\mathbf{z}}$	(4a)	H VII
$\mathbf{B_{82}}$	$=$	$-x_{21}\mathbf{a}_1-y_{21}\mathbf{a}_2+\left(z_{21}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{21}\hat{\mathbf{x}}-by_{21}\hat{\mathbf{y}}+c\left(z_{21}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VII
$\mathbf{B_{83}}$	$=$	$\left(x_{21}+\frac{1}{2}\right)\mathbf{a}_1-y_{21}\mathbf{a}_2+z_{21}\mathbf{a}_3$	$=$	$a\left(x_{21}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{21}\hat{\mathbf{y}}+cz_{21}\hat{\mathbf{z}}$	(4a)	H VII
$\mathbf{B_{84}}$	$=$	$-\left(x_{21}-\frac{1}{2}\right)\mathbf{a}_1+y_{21}\mathbf{a}_2+\left(z_{21}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{21}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{21}\hat{\mathbf{y}}+c\left(z_{21}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VII
$\mathbf{B_{85}}$	$=$	$x_{22}\mathbf{a}_1+y_{22}\mathbf{a}_2+z_{22}\mathbf{a}_3$	$=$	$ax_{22}\hat{\mathbf{x}}+by_{22}\hat{\mathbf{y}}+cz_{22}\hat{\mathbf{z}}$	(4a)	H VIII
$\mathbf{B_{86}}$	$=$	$-x_{22}\mathbf{a}_1-y_{22}\mathbf{a}_2+\left(z_{22}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-ax_{22}\hat{\mathbf{x}}-by_{22}\hat{\mathbf{y}}+c\left(z_{22}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VIII
$\mathbf{B_{87}}$	$=$	$\left(x_{22}+\frac{1}{2}\right)\mathbf{a}_1-y_{22}\mathbf{a}_2+z_{22}\mathbf{a}_3$	$=$	$a\left(x_{22}+\frac{1}{2}\right)\hat{\mathbf{x}}-by_{22}\hat{\mathbf{y}}+cz_{22}\hat{\mathbf{z}}$	(4a)	H VIII
$\mathbf{B_{88}}$	$=$	$-\left(x_{22}-\frac{1}{2}\right)\mathbf{a}_1+y_{22}\mathbf{a}_2+\left(z_{22}+\frac{1}{2}\right)\mathbf{a}_3$	$=$	$-a\left(x_{22}-\frac{1}{2}\right)\hat{\mathbf{x}}+by_{22}\hat{\mathbf{y}}+c\left(z_{22}+\frac{1}{2}\right)\hat{\mathbf{z}}$	(4a)	H VIII
$\mathbf{B_{89}}$	$=$	$x_{23}\mathbf{a}_1+y_{23}\mathbf{a}_2+z_{23}\mathbf{a}_3$	$=$	$ax_{23}\hat{\mathbf{x}}+by_{23}\hat{\mathbf{y}}+cz_{23}\hat{\mathbf{z}}$	(4a)	H IX

$\mathbf{B_{90}}$	$=$	$-x_{23}\,\mathbf{a}_1 - y_{23}\,\mathbf{a}_2 + \left(z_{23}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{23}\,\hat{\mathbf{x}} - by_{23}\,\hat{\mathbf{y}} + c\left(z_{23}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	H IX
$\mathbf{B_{91}}$	$=$	$\left(x_{23}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{23}\,\mathbf{a}_2 + z_{23}\,\mathbf{a}_3$	$=$	$a\left(x_{23}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{23}\,\hat{\mathbf{y}} + cz_{23}\,\hat{\mathbf{z}}$	(4a)	H IX
$\mathbf{B_{92}}$	$=$	$-\left(x_{23}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{23}\,\mathbf{a}_2 + \left(z_{23}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{23}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{23}\,\hat{\mathbf{y}} + c\left(z_{23}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	H IX
$\mathbf{B_{93}}$	$=$	$x_{24}\,\mathbf{a}_1 + y_{24}\,\mathbf{a}_2 + z_{24}\,\mathbf{a}_3$	$=$	$ax_{24}\,\hat{\mathbf{x}} + by_{24}\,\hat{\mathbf{y}} + cz_{24}\,\hat{\mathbf{z}}$	(4a)	H X
$\mathbf{B_{94}}$	$=$	$-x_{24}\,\mathbf{a}_1 - y_{24}\,\mathbf{a}_2 + \left(z_{24}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{24}\,\hat{\mathbf{x}} - by_{24}\,\hat{\mathbf{y}} + c\left(z_{24}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	H X
$\mathbf{B_{95}}$	$=$	$\left(x_{24}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{24}\,\mathbf{a}_2 + z_{24}\,\mathbf{a}_3$	$=$	$a\left(x_{24}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{24}\,\hat{\mathbf{y}} + cz_{24}\,\hat{\mathbf{z}}$	(4a)	H X
$\mathbf{B_{96}}$	$=$	$-\left(x_{24}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{24}\,\mathbf{a}_2 + \left(z_{24}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{24}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{24}\,\hat{\mathbf{y}} + c\left(z_{24}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	H X
$\mathbf{B_{97}}$	$=$	$x_{25}\,\mathbf{a}_1 + y_{25}\,\mathbf{a}_2 + z_{25}\,\mathbf{a}_3$	$=$	$ax_{25}\,\hat{\mathbf{x}} + by_{25}\,\hat{\mathbf{y}} + cz_{25}\,\hat{\mathbf{z}}$	(4a)	N I
$\mathbf{B_{98}}$	$=$	$-x_{25}\,\mathbf{a}_1 - y_{25}\,\mathbf{a}_2 + \left(z_{25}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{25}\,\hat{\mathbf{x}} - by_{25}\,\hat{\mathbf{y}} + c\left(z_{25}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N I
$\mathbf{B_{99}}$	$=$	$\left(x_{25}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{25}\,\mathbf{a}_2 + z_{25}\,\mathbf{a}_3$	$=$	$a\left(x_{25}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{25}\,\hat{\mathbf{y}} + cz_{25}\,\hat{\mathbf{z}}$	(4a)	N I
$\mathbf{B_{100}}$	$=$	$-\left(x_{25}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{25}\,\mathbf{a}_2 + \left(z_{25}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{25}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{25}\,\hat{\mathbf{y}} + c\left(z_{25}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N I
$\mathbf{B_{101}}$	$=$	$x_{26}\,\mathbf{a}_1 + y_{26}\,\mathbf{a}_2 + z_{26}\,\mathbf{a}_3$	$=$	$ax_{26}\,\hat{\mathbf{x}} + by_{26}\,\hat{\mathbf{y}} + cz_{26}\,\hat{\mathbf{z}}$	(4a)	N II
$\mathbf{B_{102}}$	$=$	$-x_{26}\,\mathbf{a}_1 - y_{26}\,\mathbf{a}_2 + \left(z_{26}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{26}\,\hat{\mathbf{x}} - by_{26}\,\hat{\mathbf{y}} + c\left(z_{26}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N II
$\mathbf{B_{103}}$	$=$	$\left(x_{26}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{26}\,\mathbf{a}_2 + z_{26}\,\mathbf{a}_3$	$=$	$a\left(x_{26}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{26}\,\hat{\mathbf{y}} + cz_{26}\,\hat{\mathbf{z}}$	(4a)	N II
$\mathbf{B_{104}}$	$=$	$-\left(x_{26}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{26}\,\mathbf{a}_2 + \left(z_{26}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{26}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{26}\,\hat{\mathbf{y}} + c\left(z_{26}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N II
$\mathbf{B_{105}}$	$=$	$x_{27}\,\mathbf{a}_1 + y_{27}\,\mathbf{a}_2 + z_{27}\,\mathbf{a}_3$	$=$	$ax_{27}\,\hat{\mathbf{x}} + by_{27}\,\hat{\mathbf{y}} + cz_{27}\,\hat{\mathbf{z}}$	(4a)	N III
$\mathbf{B_{106}}$	$=$	$-x_{27}\,\mathbf{a}_1 - y_{27}\,\mathbf{a}_2 + \left(z_{27}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{27}\,\hat{\mathbf{x}} - by_{27}\,\hat{\mathbf{y}} + c\left(z_{27}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N III
$\mathbf{B_{107}}$	$=$	$\left(x_{27}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{27}\,\mathbf{a}_2 + z_{27}\,\mathbf{a}_3$	$=$	$a\left(x_{27}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{27}\,\hat{\mathbf{y}} + cz_{27}\,\hat{\mathbf{z}}$	(4a)	N III
$\mathbf{B_{108}}$	$=$	$-\left(x_{27}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{27}\,\mathbf{a}_2 + \left(z_{27}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{27}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{27}\,\hat{\mathbf{y}} + c\left(z_{27}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N III
$\mathbf{B_{109}}$	$=$	$x_{28}\,\mathbf{a}_1 + y_{28}\,\mathbf{a}_2 + z_{28}\,\mathbf{a}_3$	$=$	$ax_{28}\,\hat{\mathbf{x}} + by_{28}\,\hat{\mathbf{y}} + cz_{28}\,\hat{\mathbf{z}}$	(4a)	N IV
$\mathbf{B_{110}}$	$=$	$-x_{28}\,\mathbf{a}_1 - y_{28}\,\mathbf{a}_2 + \left(z_{28}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{28}\,\hat{\mathbf{x}} - by_{28}\,\hat{\mathbf{y}} + c\left(z_{28}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N IV
$\mathbf{B_{111}}$	$=$	$\left(x_{28}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{28}\,\mathbf{a}_2 + z_{28}\,\mathbf{a}_3$	$=$	$a\left(x_{28}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{28}\,\hat{\mathbf{y}} + cz_{28}\,\hat{\mathbf{z}}$	(4a)	N IV
$\mathbf{B_{112}}$	$=$	$-\left(x_{28}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{28}\,\mathbf{a}_2 + \left(z_{28}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{28}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{28}\,\hat{\mathbf{y}} + c\left(z_{28}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N IV
$\mathbf{B_{113}}$	$=$	$x_{29}\,\mathbf{a}_1 + y_{29}\,\mathbf{a}_2 + z_{29}\,\mathbf{a}_3$	$=$	$ax_{29}\,\hat{\mathbf{x}} + by_{29}\,\hat{\mathbf{y}} + cz_{29}\,\hat{\mathbf{z}}$	(4a)	N V
$\mathbf{B_{114}}$	$=$	$-x_{29}\,\mathbf{a}_1 - y_{29}\,\mathbf{a}_2 + \left(z_{29}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{29}\,\hat{\mathbf{x}} - by_{29}\,\hat{\mathbf{y}} + c\left(z_{29}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N V
$\mathbf{B_{115}}$	$=$	$\left(x_{29}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{29}\,\mathbf{a}_2 + z_{29}\,\mathbf{a}_3$	$=$	$a\left(x_{29}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{29}\,\hat{\mathbf{y}} + cz_{29}\,\hat{\mathbf{z}}$	(4a)	N V
$\mathbf{B_{116}}$	$=$	$-\left(x_{29}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{29}\,\mathbf{a}_2 + \left(z_{29}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{29}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{29}\,\hat{\mathbf{y}} + c\left(z_{29}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N V
$\mathbf{B_{117}}$	$=$	$x_{30}\,\mathbf{a}_1 + y_{30}\,\mathbf{a}_2 + z_{30}\,\mathbf{a}_3$	$=$	$ax_{30}\,\hat{\mathbf{x}} + by_{30}\,\hat{\mathbf{y}} + cz_{30}\,\hat{\mathbf{z}}$	(4a)	N VI
$\mathbf{B_{118}}$	$=$	$-x_{30}\,\mathbf{a}_1 - y_{30}\,\mathbf{a}_2 + \left(z_{30}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{30}\,\hat{\mathbf{x}} - by_{30}\,\hat{\mathbf{y}} + c\left(z_{30}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N VI
$\mathbf{B_{119}}$	$=$	$\left(x_{30}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{30}\,\mathbf{a}_2 + z_{30}\,\mathbf{a}_3$	$=$	$a\left(x_{30}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{30}\,\hat{\mathbf{y}} + cz_{30}\,\hat{\mathbf{z}}$	(4a)	N VI
$\mathbf{B_{120}}$	$=$	$-\left(x_{30}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{30}\,\mathbf{a}_2 + \left(z_{30}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{30}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{30}\,\hat{\mathbf{y}} + c\left(z_{30}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	N VI
$\mathbf{B_{121}}$	$=$	$x_{31}\,\mathbf{a}_1 + y_{31}\,\mathbf{a}_2 + z_{31}\,\mathbf{a}_3$	$=$	$ax_{31}\,\hat{\mathbf{x}} + by_{31}\,\hat{\mathbf{y}} + cz_{31}\,\hat{\mathbf{z}}$	(4a)	O I
$\mathbf{B_{122}}$	$=$	$-x_{31}\,\mathbf{a}_1 - y_{31}\,\mathbf{a}_2 + \left(z_{31}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{31}\,\hat{\mathbf{x}} - by_{31}\,\hat{\mathbf{y}} + c\left(z_{31}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O I
$\mathbf{B_{123}}$	$=$	$\left(x_{31}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{31}\,\mathbf{a}_2 + z_{31}\,\mathbf{a}_3$	$=$	$a\left(x_{31}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{31}\,\hat{\mathbf{y}} + cz_{31}\,\hat{\mathbf{z}}$	(4a)	O I

$\mathbf{B_{124}} =$	$-\left(x_{31}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{31}\,\mathbf{a}_2+\left(z_{31}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{31}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{31}\,\hat{\mathbf{y}}+c\left(z_{31}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O I
$\mathbf{B_{125}} =$	$x_{32}\,\mathbf{a}_1+y_{32}\,\mathbf{a}_2+z_{32}\,\mathbf{a}_3$	$=$	$ax_{32}\,\hat{\mathbf{x}}+by_{32}\,\hat{\mathbf{y}}+cz_{32}\,\hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B_{126}} =$	$-x_{32}\,\mathbf{a}_1-y_{32}\,\mathbf{a}_2+\left(z_{32}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{32}\,\hat{\mathbf{x}}-by_{32}\,\hat{\mathbf{y}}+c\left(z_{32}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B_{127}} =$	$\left(x_{32}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{32}\,\mathbf{a}_2+z_{32}\,\mathbf{a}_3$	$=$	$a\left(x_{32}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{32}\,\hat{\mathbf{y}}+cz_{32}\,\hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B_{128}} =$	$-\left(x_{32}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{32}\,\mathbf{a}_2+\left(z_{32}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{32}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{32}\,\hat{\mathbf{y}}+c\left(z_{32}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O II
$\mathbf{B_{129}} =$	$x_{33}\,\mathbf{a}_1+y_{33}\,\mathbf{a}_2+z_{33}\,\mathbf{a}_3$	$=$	$ax_{33}\,\hat{\mathbf{x}}+by_{33}\,\hat{\mathbf{y}}+cz_{33}\,\hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B_{130}} =$	$-x_{33}\,\mathbf{a}_1-y_{33}\,\mathbf{a}_2+\left(z_{33}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{33}\,\hat{\mathbf{x}}-by_{33}\,\hat{\mathbf{y}}+c\left(z_{33}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B_{131}} =$	$\left(x_{33}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{33}\,\mathbf{a}_2+z_{33}\,\mathbf{a}_3$	$=$	$a\left(x_{33}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{33}\,\hat{\mathbf{y}}+cz_{33}\,\hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B_{132}} =$	$-\left(x_{33}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{33}\,\mathbf{a}_2+\left(z_{33}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{33}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{33}\,\hat{\mathbf{y}}+c\left(z_{33}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O III
$\mathbf{B_{133}} =$	$x_{34}\,\mathbf{a}_1+y_{34}\,\mathbf{a}_2+z_{34}\,\mathbf{a}_3$	$=$	$ax_{34}\,\hat{\mathbf{x}}+by_{34}\,\hat{\mathbf{y}}+cz_{34}\,\hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B_{134}} =$	$-x_{34}\,\mathbf{a}_1-y_{34}\,\mathbf{a}_2+\left(z_{34}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{34}\,\hat{\mathbf{x}}-by_{34}\,\hat{\mathbf{y}}+c\left(z_{34}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B_{135}} =$	$\left(x_{34}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{34}\,\mathbf{a}_2+z_{34}\,\mathbf{a}_3$	$=$	$a\left(x_{34}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{34}\,\hat{\mathbf{y}}+cz_{34}\,\hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B_{136}} =$	$-\left(x_{34}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{34}\,\mathbf{a}_2+\left(z_{34}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{34}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{34}\,\hat{\mathbf{y}}+c\left(z_{34}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O IV
$\mathbf{B_{137}} =$	$x_{35}\,\mathbf{a}_1+y_{35}\,\mathbf{a}_2+z_{35}\,\mathbf{a}_3$	$=$	$ax_{35}\,\hat{\mathbf{x}}+by_{35}\,\hat{\mathbf{y}}+cz_{35}\,\hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B_{138}} =$	$-x_{35}\,\mathbf{a}_1-y_{35}\,\mathbf{a}_2+\left(z_{35}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{35}\,\hat{\mathbf{x}}-by_{35}\,\hat{\mathbf{y}}+c\left(z_{35}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B_{139}} =$	$\left(x_{35}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{35}\,\mathbf{a}_2+z_{35}\,\mathbf{a}_3$	$=$	$a\left(x_{35}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{35}\,\hat{\mathbf{y}}+cz_{35}\,\hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B_{140}} =$	$-\left(x_{35}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{35}\,\mathbf{a}_2+\left(z_{35}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{35}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{35}\,\hat{\mathbf{y}}+c\left(z_{35}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O V
$\mathbf{B_{141}} =$	$x_{36}\,\mathbf{a}_1+y_{36}\,\mathbf{a}_2+z_{36}\,\mathbf{a}_3$	$=$	$ax_{36}\,\hat{\mathbf{x}}+by_{36}\,\hat{\mathbf{y}}+cz_{36}\,\hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B_{142}} =$	$-x_{36}\,\mathbf{a}_1-y_{36}\,\mathbf{a}_2+\left(z_{36}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{36}\,\hat{\mathbf{x}}-by_{36}\,\hat{\mathbf{y}}+c\left(z_{36}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B_{143}} =$	$\left(x_{36}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{36}\,\mathbf{a}_2+z_{36}\,\mathbf{a}_3$	$=$	$a\left(x_{36}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{36}\,\hat{\mathbf{y}}+cz_{36}\,\hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B_{144}} =$	$-\left(x_{36}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{36}\,\mathbf{a}_2+\left(z_{36}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{36}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{36}\,\hat{\mathbf{y}}+c\left(z_{36}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VI
$\mathbf{B_{145}} =$	$x_{37}\,\mathbf{a}_1+y_{37}\,\mathbf{a}_2+z_{37}\,\mathbf{a}_3$	$=$	$ax_{37}\,\hat{\mathbf{x}}+by_{37}\,\hat{\mathbf{y}}+cz_{37}\,\hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B_{146}} =$	$-x_{37}\,\mathbf{a}_1-y_{37}\,\mathbf{a}_2+\left(z_{37}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{37}\,\hat{\mathbf{x}}-by_{37}\,\hat{\mathbf{y}}+c\left(z_{37}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B_{147}} =$	$\left(x_{37}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{37}\,\mathbf{a}_2+z_{37}\,\mathbf{a}_3$	$=$	$a\left(x_{37}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{37}\,\hat{\mathbf{y}}+cz_{37}\,\hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B_{148}} =$	$-\left(x_{37}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{37}\,\mathbf{a}_2+\left(z_{37}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{37}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{37}\,\hat{\mathbf{y}}+c\left(z_{37}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VII
$\mathbf{B_{149}} =$	$x_{38}\,\mathbf{a}_1+y_{38}\,\mathbf{a}_2+z_{38}\,\mathbf{a}_3$	$=$	$ax_{38}\,\hat{\mathbf{x}}+by_{38}\,\hat{\mathbf{y}}+cz_{38}\,\hat{\mathbf{z}}$	(4a)	O VIII
$\mathbf{B_{150}} =$	$-x_{38}\,\mathbf{a}_1-y_{38}\,\mathbf{a}_2+\left(z_{38}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{38}\,\hat{\mathbf{x}}-by_{38}\,\hat{\mathbf{y}}+c\left(z_{38}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VIII
$\mathbf{B_{151}} =$	$\left(x_{38}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{38}\,\mathbf{a}_2+z_{38}\,\mathbf{a}_3$	$=$	$a\left(x_{38}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{38}\,\hat{\mathbf{y}}+cz_{38}\,\hat{\mathbf{z}}$	(4a)	O VIII
$\mathbf{B_{152}} =$	$-\left(x_{38}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{38}\,\mathbf{a}_2+\left(z_{38}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{38}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{38}\,\hat{\mathbf{y}}+c\left(z_{38}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O VIII
$\mathbf{B_{153}} =$	$x_{39}\,\mathbf{a}_1+y_{39}\,\mathbf{a}_2+z_{39}\,\mathbf{a}_3$	$=$	$ax_{39}\,\hat{\mathbf{x}}+by_{39}\,\hat{\mathbf{y}}+cz_{39}\,\hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B_{154}} =$	$-x_{39}\,\mathbf{a}_1-y_{39}\,\mathbf{a}_2+\left(z_{39}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{39}\,\hat{\mathbf{x}}-by_{39}\,\hat{\mathbf{y}}+c\left(z_{39}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B_{155}} =$	$\left(x_{39}+\frac{1}{2}\right)\,\mathbf{a}_1-y_{39}\,\mathbf{a}_2+z_{39}\,\mathbf{a}_3$	$=$	$a\left(x_{39}+\frac{1}{2}\right)\,\hat{\mathbf{x}}-by_{39}\,\hat{\mathbf{y}}+cz_{39}\,\hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B_{156}} =$	$-\left(x_{39}-\frac{1}{2}\right)\,\mathbf{a}_1+y_{39}\,\mathbf{a}_2+\left(z_{39}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{39}-\frac{1}{2}\right)\,\hat{\mathbf{x}}+by_{39}\,\hat{\mathbf{y}}+c\left(z_{39}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O IX
$\mathbf{B_{157}} =$	$x_{40}\,\mathbf{a}_1+y_{40}\,\mathbf{a}_2+z_{40}\,\mathbf{a}_3$	$=$	$ax_{40}\,\hat{\mathbf{x}}+by_{40}\,\hat{\mathbf{y}}+cz_{40}\,\hat{\mathbf{z}}$	(4a)	O X

$\mathbf{B_{158}} =$	$-x_{40}\,\mathbf{a}_1 - y_{40}\,\mathbf{a}_2 + \left(z_{40}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{40}\,\hat{\mathbf{x}} - by_{40}\,\hat{\mathbf{y}} + c\left(z_{40}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O X
$\mathbf{B_{159}} =$	$\left(x_{40}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{40}\,\mathbf{a}_2 + z_{40}\,\mathbf{a}_3$	$=$	$a\left(x_{40}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{40}\,\hat{\mathbf{y}} + cz_{40}\,\hat{\mathbf{z}}$	(4a)	O X
$\mathbf{B_{160}} =$	$-\left(x_{40}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{40}\,\mathbf{a}_2 + \left(z_{40}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{40}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{40}\,\hat{\mathbf{y}} + c\left(z_{40}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O X
$\mathbf{B_{161}} =$	$x_{41}\,\mathbf{a}_1 + y_{41}\,\mathbf{a}_2 + z_{41}\,\mathbf{a}_3$	$=$	$ax_{41}\,\hat{\mathbf{x}} + by_{41}\,\hat{\mathbf{y}} + cz_{41}\,\hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B_{162}} =$	$-x_{41}\,\mathbf{a}_1 - y_{41}\,\mathbf{a}_2 + \left(z_{41}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{41}\,\hat{\mathbf{x}} - by_{41}\,\hat{\mathbf{y}} + c\left(z_{41}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B_{163}} =$	$\left(x_{41}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{41}\,\mathbf{a}_2 + z_{41}\,\mathbf{a}_3$	$=$	$a\left(x_{41}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{41}\,\hat{\mathbf{y}} + cz_{41}\,\hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B_{164}} =$	$-\left(x_{41}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{41}\,\mathbf{a}_2 + \left(z_{41}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{41}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{41}\,\hat{\mathbf{y}} + c\left(z_{41}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O XI
$\mathbf{B_{165}} =$	$x_{42}\,\mathbf{a}_1 + y_{42}\,\mathbf{a}_2 + z_{42}\,\mathbf{a}_3$	$=$	$ax_{42}\,\hat{\mathbf{x}} + by_{42}\,\hat{\mathbf{y}} + cz_{42}\,\hat{\mathbf{z}}$	(4a)	O XII
$\mathbf{B_{166}} =$	$-x_{42}\,\mathbf{a}_1 - y_{42}\,\mathbf{a}_2 + \left(z_{42}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-ax_{42}\,\hat{\mathbf{x}} - by_{42}\,\hat{\mathbf{y}} + c\left(z_{42}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O XII
$\mathbf{B_{167}} =$	$\left(x_{42}+\frac{1}{2}\right)\,\mathbf{a}_1 - y_{42}\,\mathbf{a}_2 + z_{42}\,\mathbf{a}_3$	$=$	$a\left(x_{42}+\frac{1}{2}\right)\,\hat{\mathbf{x}} - by_{42}\,\hat{\mathbf{y}} + cz_{42}\,\hat{\mathbf{z}}$	(4a)	O XII
$\mathbf{B_{168}} =$	$-\left(x_{42}-\frac{1}{2}\right)\,\mathbf{a}_1 + y_{42}\,\mathbf{a}_2 + \left(z_{42}+\frac{1}{2}\right)\,\mathbf{a}_3$	$=$	$-a\left(x_{42}-\frac{1}{2}\right)\,\hat{\mathbf{x}} + by_{42}\,\hat{\mathbf{y}} + c\left(z_{42}+\frac{1}{2}\right)\,\hat{\mathbf{z}}$	(4a)	O XII

References

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