

Thomas Cook Group on the Brink (B): Transformation Year 1 Results

Thecasesolutions.com



TYPES OF TRANSFORMATIONS

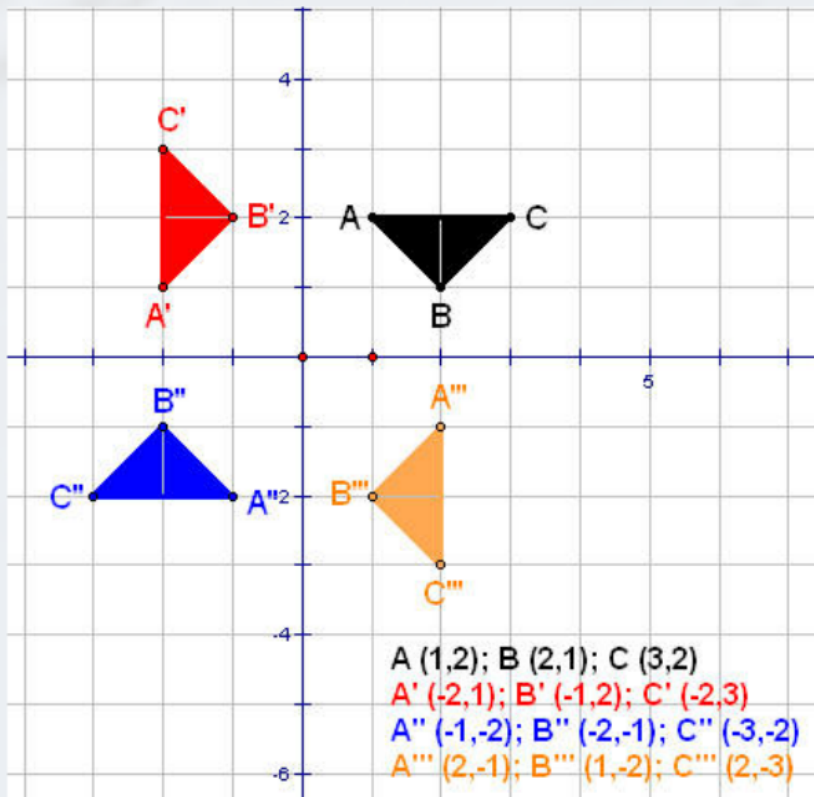
- Rotation
- Translation
- Reflection
- Enlargement

Thecasesolutions.com



SUMMIT

ROTATION



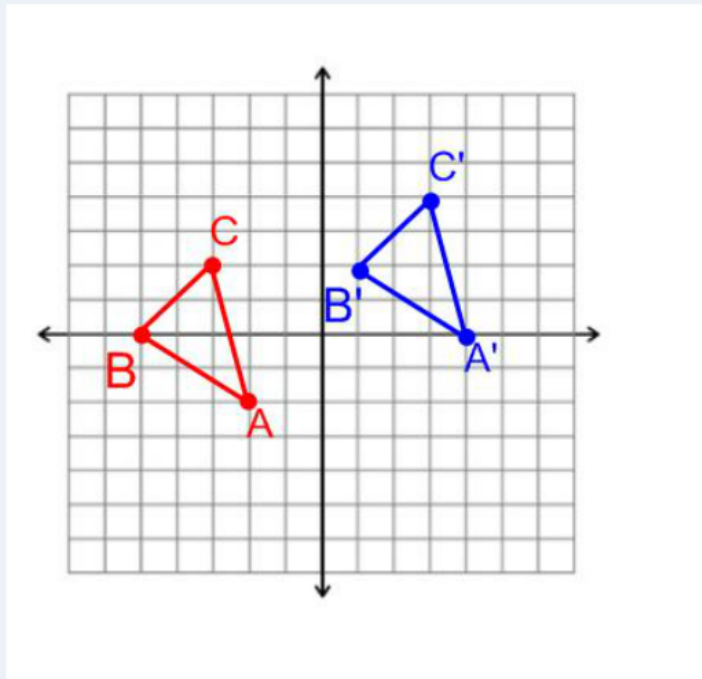
Rotation: 90 degrees clockwise;
centre (0,0)



Matrix transformation: $\begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix}$

Thecasesolutions.com

TRANSLATION



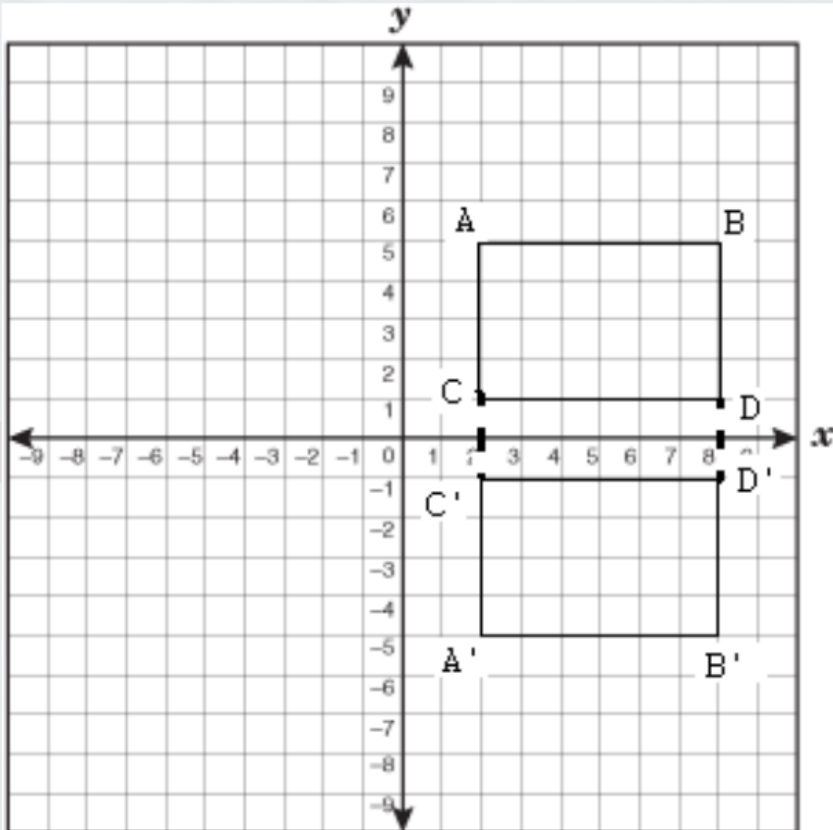
Translation: $\begin{pmatrix} 6 \\ 2 \end{pmatrix}$



Matrix transformation: $\begin{pmatrix} 7 & 6 \\ 2 & 3 \end{pmatrix}$

Thecasesolutions.com

REFLECTION

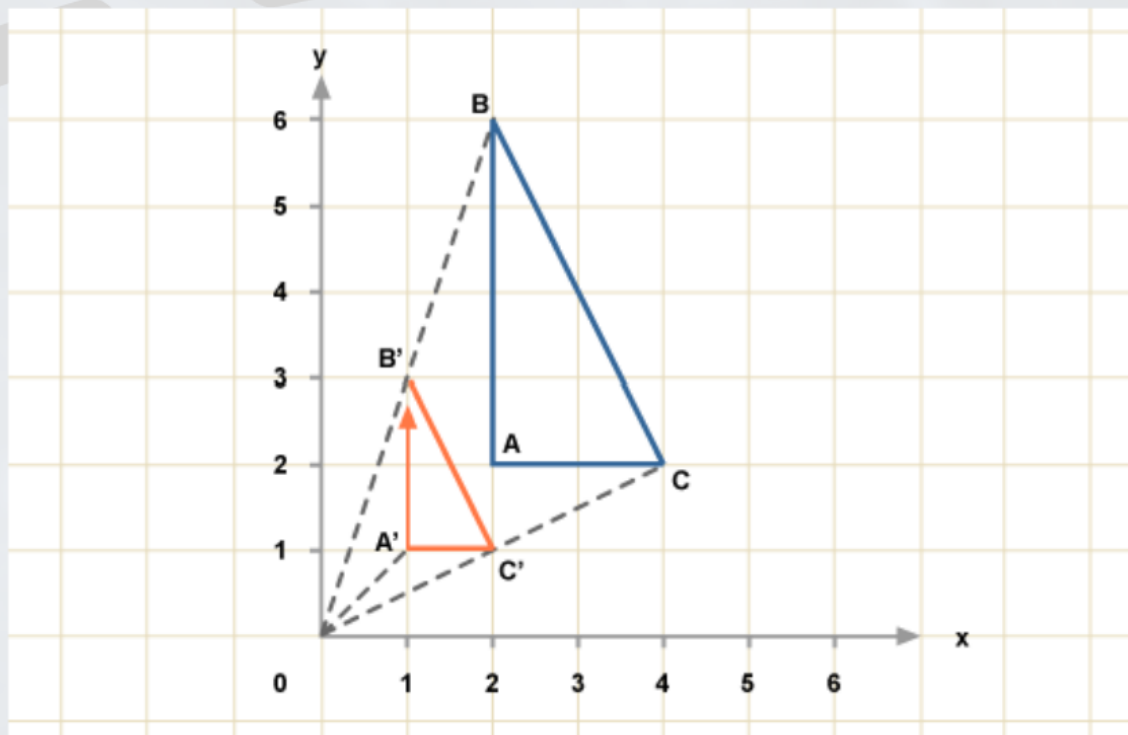


Reflection: on x-axis
($y = 0$)

Matrix transformation: $\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$

Thecasesolutions.com

ENLARGEMENT



Enlargement: centre (0,0)
s.f. = 2



Matrix transformation:

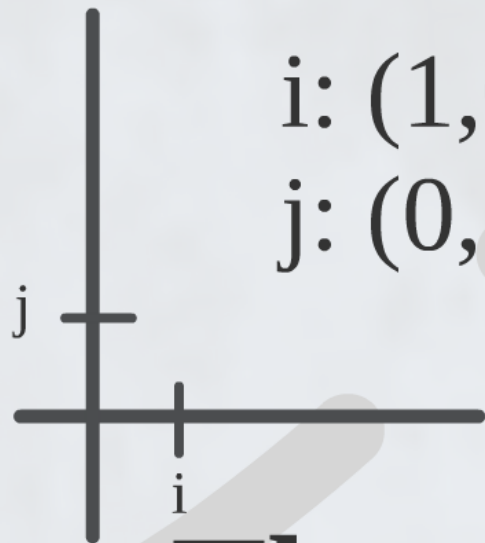
$$\begin{pmatrix} 2 & 0 \\ 0 & 2 \end{pmatrix}$$

Thecasesolutions.com

IDENTITY MATRIX

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}_{2 \times 2}$$
$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}_{3 \times 3}$$

$$\left(\begin{array}{c} 1 \\ 0 \end{array} \right) \left(\begin{array}{c} 0 \\ 1 \end{array} \right)$$



i: (1,0)

j: (0,1)



i



j

MATRIX TRANSFORMATIONS

initial coordinate of i and j

$$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

Reflection of i and j on the line: $y = -x$



i gets reflected to form i' at $(0, -1)$
and j gets reflect to form j' at $(-1, 0)$
so the matrix transformation is:

final coordinate of i and j

$$\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}$$