Matrices* to Know†

Name	Matrix	What It Does
I *identity*	$\begin{matrix}1 & 0\\0 & 1\end{matrix}$	Nothing! A point transformed by the identity matrix does not change position.
$Rot_{90°}$ *90° rotation*	$\begin{matrix}0 & -1\\1 & 0\end{matrix}$	The point is rotated by 90° **anti-clockwise**‡ about the origin.
$Rot_{180°}$ *180° rotation*	$\begin{matrix}-1 & 0\\0 & -1\end{matrix}$	The point is rotated by 180° about the origin.
$Rot_{270°}$ *270° rotation*	$\begin{matrix}0 & 1\\-1 & 0\end{matrix}$	The point is rotated by 270° anti-clockwise about the origin.
$Refl_{x=0}$ *reflection in the line $x = 0$*	$\begin{matrix}-1 & 0\\0 & 1\end{matrix}$	The point is reflected in the y-axis (a.k.a. the line $x = 0$).
$Refl_{y=0}$ *reflection in the line $y = 0$*	$\begin{matrix}1 & 0\\0 & -1\end{matrix}$	The point is reflected in the x-axis (a.k.a. the line $y = 0$).
$Refl_{y=x}$ *reflection in the line $y = x$*	$\begin{matrix}0 & 1\\1 & 0\end{matrix}$	The point is reflected in the line given by the equation $y = x$.
$Refl_{y=-x}$ *reflection in the line $y = -x$*	$\begin{matrix}0 & -1\\-1 & 0\end{matrix}$	The point is reflected in the line given by the equation $y = -x$.
S_k *enlargement*	$\begin{matrix}k & 0\\0 & k\end{matrix}$	The point is enlarged by scale factor k, centred on the origin.

* *For this qualification "matrix" means 2x2 matrix (or 2x1 matrix in the case of column vectors).*

† *Source: **AQA Level 2 Certificate in Further Mathematics** specification version 1.4 November 2020, used by the exam board at time of writing (February 2022).*

‡ *Anti-clockwise is the convention most commonly used for this type of matrix, but you can think of '90° anti-clockwise' as '270° clockwise' if helpful at this stage.*