Match-Up: Combinations of Transformations

1	Reflection in the line $y = x$ followed by an enlargement about the origin of scale factor 3
2	Rotation $90°$ anti-clockwise about the origin followed by a reflection in the y-axis
3	Stretch parallel to y-axis of scale factor 3 followed by a reflection in the line $y = -x$
4	Rotation $45°$ anti-clockwise about the origin followed by an enlargement of scale factor $\sqrt{2}$
5	Stretch parallel to the y-axis of scale factor $\sqrt{3}$ followed by a reflection in the x-axis
6	Enlargement of scale factor -3 followed by a rotation $90°$ anti-clockwise about the origin
7	Reflection in the line $y = x$ followed by a stretch parallel to the y-axis of scale factor -1
8	Rotation $180°$ clockwise about $(0, 0)$ followed by a second rotation $180°$ clockwise about $(0, 0)$
9	Rotation $180°$ about the origin followed by a stretch parallel to the x-axis of scale factor 3
10	Enlargement of scale factor -2 followed by a rotation $120°$ anti-clockwise about the origin
11	Rotation $135°$ clockwise about the origin followed by a stretch parallel to the x-axis of scale factor $-\sqrt{2}$
12	Rotation $60°$ clockwise about $(0, 0)$ followed by an enlargement of scale factor 2 followed by a reflection in the line $y = x$

A	$\begin{pmatrix} -3 & 0 \\ 0 & -1 \end{pmatrix}$
B	$\begin{pmatrix} 1 & -1 \\ 1 & 1 \end{pmatrix}$
C	$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$
D	$\begin{pmatrix} 0 & -3 \\ -1 & 0 \end{pmatrix}$
E	$\begin{pmatrix} 1 & \sqrt{3} \\ -\sqrt{3} & 1 \end{pmatrix}$
F	$\begin{pmatrix} 0 & 3 \\ 3 & 0 \end{pmatrix}$
G	$\begin{pmatrix} 1 & -1 \\ -\frac{\sqrt{2}}{2} & -\frac{\sqrt{2}}{2} \end{pmatrix}$
H	$\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$
I	$\begin{pmatrix} -\sqrt{3} & 1 \\ 1 & \sqrt{3} \end{pmatrix}$
J	$\begin{pmatrix} 0 & 3 \\ -3 & 0 \end{pmatrix}$
K	$\begin{pmatrix} 1 & 0 \\ 0 & -\sqrt{3} \end{pmatrix}$
L	$\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$

1	2	3	4	5	6	7	8	9	10	11	12
F	H	D	B	K	J	L	C	A	E	G	I