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| **Sort It Out** | **Reflection Matrices**  |

Sort each statement into the correct group.

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| **1** | The linear transformation is $\left(\begin{matrix}x\\y\end{matrix}\right)↦\left(\begin{matrix}y\\x\end{matrix}\right)$ | **2** | The transformation matrix is $\left(\begin{matrix}1&0\\0&-1\end{matrix}\right)$ |
| **3** | The line of invariant points is $x=0$ | **4** | The linear transformation is $\left(\begin{matrix}x\\y\end{matrix}\right)↦\left(\begin{matrix}-y\\-x\end{matrix}\right)$ |
| **5** | The transformation matrix is $\left(\begin{matrix}0&1\\1&0\end{matrix}\right)$ | **6** | The point $(2, 3)$ maps to the point $(-2, 3)$ |
| **7** | The point $(2, 3)$ maps to the point $(-3, -2)$ | **8** | The linear transformation is $\left(\begin{matrix}x\\y\end{matrix}\right)↦\left(\begin{matrix}-x\\y\end{matrix}\right)$ |
| **9** | The line of invariant points is $y=-x$ | **10** | The transformation matrix is $\left(\begin{matrix}-1&0\\0&1\end{matrix}\right)$ |
| **11** | The point $(2, 3)$ maps to the point $(2, -3)$ | **12** | The line of invariant points is $y=0$ |
| **13** | The transformation matrix is $\left(\begin{matrix}0&-1\\-1&0\end{matrix}\right)$ | **14** | The line of invariant points is $y=x$ |
| **15** | The linear transformation is $\left(\begin{matrix}x\\y\end{matrix}\right)↦\left(\begin{matrix}x\\-y\end{matrix}\right)$ | **16** | The point $(2, 3)$ maps to the point $(3, 2)$ |

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| **A** | Reflection in the $y$-axis | **B** | Reflection in the $x$-axis |
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| **C** | Reflection in the line $y=x$ | **D** | Reflection in the line $y=-x$ |
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