|  |  |
| --- | --- |
| **Crack the Code** | **Inverse of a** $2×2$ **Matrix** |

|  |  |  |  |
| --- | --- | --- | --- |
| **A** | The inverse of $\left(\begin{matrix}9&2\\4&1\end{matrix}\right)$ is  | **B** | The inverse of $\left(\begin{matrix}5&-2\\-7&3\end{matrix}\right)$ is  |
| **C** | The inverse of $\left(\begin{matrix}-2&-3\\4&5\end{matrix}\right)$ is  |  **D** | The inverse of $\left(\begin{matrix}6&-2.5\\-7&3\end{matrix}\right)$ is  |
| **E** | Given that $A=\left(\begin{matrix}-5&-2\\10&3\end{matrix}\right)$ | **F** | Given that $B=\left(\begin{matrix}-3&-2\\9&7\end{matrix}\right)$ |
| **G** | The inverse of $\left(\begin{matrix}-0.5&1.5\\4&-9\end{matrix}\right)$ is  | **H** | The inverse of $\left(\begin{matrix}-3&4\\1&2\end{matrix}\right)$ is  |
| **I** | The matrix $\left(\begin{matrix}-3&4\\a&3\end{matrix}\right)$ is self-inverse. Find the value of $a$. | **J** | The matrix $\left(\begin{matrix}-9&-10\\a&b\end{matrix}\right)$ is self-inverse. Find the values of $a$ and $b$. |
| **K** | Given $A=\left(\begin{matrix}-3&1\\0&-1\end{matrix}\right)$ and $B=\left(\begin{matrix}2&4\\-1&1\end{matrix}\right),$ | **L** | Given $A=\left(\begin{matrix}-1&-3\\-2&5\end{matrix}\right)$ and $B=\left(\begin{matrix}5&-3\\3&-2\end{matrix}\right),$ |
| To get the three-digit code, add together all the numbers in the boxes. |