Problem of the Week

Problem C

This Product is a Mystery

The number $A8$ is a two-digit number with tens digit $A$ and units (ones) digit 8. Similarly, $3B$ is a two-digit number with tens digit 3 and units digit $B$. When $A8$ is multiplied by $3B$, the result is the four-digit number $C730$. That is,

\[
\begin{array}{c}
\frac{A8}{\times}
\frac{3B}{C730}
\end{array}
\]

If $A$, $B$, and $C$ are each different digits from 0 to 9, determine the values of $A$, $B$, and $C$. 