Fractured Multiplication

Here is a multiplication problem that was partially erased.

\[
\begin{array}{c}
1 \\
\times \\
\hline \\
9 \\
\end{array}
\]

1. Can you fill in a possible set of missing digits? [The missing digits need not be the same as one another.]

2. How many possible answers are there? What are they?

3. How do you know you found all the possible answers?