If \( ab = 0 \), then \( a = 0 \) or \( b = 0 \).

**Proof:** Suppose that \( ab = 0 \).

Suppose that \( a \neq 0 \). Then \( a^{-1} \) exists by MIV, and \( a^{-1}(ab) = 0 \) by 1.4 part (f). Using MID, MIV, and MA we have

\[
b = 1b = (a^{-1}a)b = a^{-1}(ab) = 0.
\]

We conclude that if \( a \neq 0 \), then \( b = 0 \). It follows that \( a = 0 \) or \( b = 0 \).