ON–IND–1 improved version

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\begin{verbatim}
<< goedel52.n34; << tests.m
:Package Title: GOEDEL52.N34 2002 April 21 at 8:40 p.m.
It is now: 2002 Apr 21 at 20:48
Loading Simplification Rules
TESTS.M Revised 2002 April 16
weightlimit = 40

Context switch to 'Goedel'Private is needed for ReplaceTest
Just ignore the error message about Unterminated use of BeginPackage
Get::bebal : Unterminated uses of BeginPackage or Begin in <<tests.m.
\end{verbatim}

\textbf{Improved statement of Lemma ON–IND–1}

The statement of Lemma ON–IND–1 in my JAR paper on Ordinal Number Theory contains an unneeded literal. Omitting this literal, we obtain the following improved statement:

\begin{verbatim}
implies[member[x, intersection[omega, y]],
member[0, union[x, y]]]
or[member[0, x], member[0, y], not[member[x, omega]], not[member[x, y]]]
\end{verbatim}

\textbf{The proof}

The proof of Lemma ON–IND–1 uses Corollary ON–7–A, and an equality substitution.

\begin{verbatim}
Map[not, SubsetTest[and, implies[p1, or[p3, p5]], implies[and[p2, p5], p4],
not[implies[and[p1, p2], or[p3, p4]]],
{p1 -> member[x, omega],
p2 -> member[x, y],
p3 -> member[0, x],
p4 -> member[0, y],
p5 -> equal[0, x]}],
or[member[0, x], member[0, y], not[member[x, omega]], not[member[x, y]]] == True

or[member[0, x_], member[0, y_],
not[member[x_, omega]], not[member[x_, y_]]] := True
\end{verbatim}