$$c(N_{W_2|W}) = \frac{c(T(W)|_{W_2})}{c(T(W_2))},$$

and performing the division

$$\begin{array}{r|l}
 & 1 + 9\ell + 30\ell^2 \\
\hline
1 + 3\ell + 3\ell^2 & 1 + 12\ell + 60\ell^2 \\
 & 1 + 3\ell + 3\ell^2 \\
\hline
 & \quad 9\ell + 57\ell^2 \\
 & \quad 9\ell + 27\ell^2 \\
\hline
 & \qquad 30\ell^2 \\
 & \qquad 30\ell^2 \\
\hline
\end{array}$$

we find that

$$c(N_{W_2|W}) = 1 + 9\ell + 30\ell^2.$$

☞ For $T'(W)|_{W_2} = T'(W_2) \oplus N_{W_2|W}$, see P71 and for the product formula of Chern classes see p 408.

Thus if $\zeta \in H^2(E, \mathbb{Z})$ denotes the Chern class of the tautological bundle on $E \cong \mathbb{P}(N_{W_2|W})$, our general relation (p. 606) reads

$$(*) \qquad \zeta^3 - 9\tilde{\ell}\cdot\zeta^2 + 30\tilde{\ell}^2\cdot\zeta = 0.$$