Below we define a few relations. The first two relations, the natural numbers, are a representation of two of Peano's Axioms for Natural Numbers:

[z]: number(z)

[s]: $\dfrac{\text{number(N)}}{\text{number(succ N)}}$

Figure 1: The natural numbers

[even_z]: even(z)

[even_s]: $\dfrac{\text{even(N)}}{\text{even(succ (succ N))}}$

Figure 2: The even numbers

[plus_z]: plus(z, N, N)

[plus_s]: $\dfrac{\text{plus(N1, N2, N3)}}{\text{plus(succ N1, N2, succ N3)}}$

Figure 3: The sum of natural numbers

1. Prove that the sum of even numbers is even, e.g.:
   even(N1) $\wedge$ even(N2) $\wedge$ plus(N1, N2, N3) $\Rightarrow$ even(N3)

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