

## Quantifiers and Consistency

1. Let  $a_1, a_2, a_3, \dots$  be all of the elements of  $C$ . By assumption, we can take any two elements  $a_i$  and  $a_j$  and find an  $a_n \in C$  such that  $a_i \leq a_n$  and  $a_j \leq a_n$  for any  $i, j \in \mathbb{N}$ .
2. We know that for every  $u_1, u_2$  in  $C$  there is some  $u_3$  in  $C$  such that  $u_1 \leq u_3$  and  $u_2 \leq u_3$ . Choose another element  $u_4$  in  $C$ . There exists an element  $u_5$  in  $C$  such that  $u_3 \leq u_5$  and  $u_4 \leq u_5$ .

## Citing Information

You DO NOT need to cite information like the following:

1. Alan Turing proved that there is no solution to the Halting Problem.
2. After getting his degree in teaching in 1840, Weierstrauss began his teaching career at a local gymnasium, in what is considered modern day Poland. He remained there for the next fifteen years.
3. In 1741, Euler presented a solution of the Basel Problem, which asked for the precise value of  $\sum_{n=1}^{\infty} \frac{1}{n^2}$ . He found that the sum is  $\frac{\pi^2}{6}$ .

You DO need to cite information like the following:

1. The faculty members, who were all men, were outraged when Noether was asked to join them because they didn't want women to be part of the university.
2. Without Noether's work, Einstein's theory of relativity would not have been completed.
3. At a young age, Galois read the works of mathematicians such as Lagrange and Legendre, which for him was as easy and intuitive as reading a casual novel.
4. Paul Erdős, considered the "second genius after Leonhard Euler,"...