1. The sum of two odd integers is even.

2. If $a \equiv_m b$ and $b \equiv_m c$, then $a \equiv_m c$.

3. For any $n \in \mathbb{N}, 6|n(n+1)(2n+1)$

4. Determine whether the statements $P \Rightarrow Q$ and $\neg P \vee Q$ are logically equivalent.

5. $\sqrt{3}$ is irrational.