

1. The product of two throddodd integers is throdd.

2. Show that if $n, s, t \in \mathbb{Z}$ with $n|s$ and $n|(s + t)$, then $n|t$.

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

4. Use induction to show that the sum of any two consecutive natural numbers is odd.

5. $\sqrt{2}$ is irrational.