

1. The product of any two odd integers is odd.

2. Show that if $p \in \mathbb{Z}$ and $5|p^2$ then $5|p$.

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

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

5. For any $n \in \mathbb{Z}^+$,

$$\sum_{i=1}^n i = \frac{n(n+1)}{2}$$