Examlet 1a **Foundations of Advanced Math** **2/2/24**

1. The square of a throddodd integer is throdd.

2. $P \Rightarrow Q$ is logically equivalent to its contrapositive.

3. If p, q, and r are integers for which $p|(q + r)$ and $p|q$, then $p|r$.

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

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

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