Examlet 1A
Foundations of Advanced Math
2/15/21

1. The product of any two odd integers is odd.
2. Show that if $p \in \mathbb{Z}$ and $5 \mid p^{2}$ then $5 \mid p$.
3. Determine whether the statements $Q \Rightarrow P$ and $P \vee \neg Q$ are logically equivalent.
4. $\sqrt{3}$ is irrational.
5. For any $n \in \mathbb{Z}^{+}$,

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

