

Worksheet §4.3

1. Prove that an odd plus an even is odd.
2. Prove that if n is odd, then $5n^2 + 3n + 7$ is odd.
3. Prove that if $a, b \in \mathbb{N}$, then $\gcd(a, b) \mid \text{lcm}(a, b)$.
4. Prove that if $n \geq 2$, then $n!$ is even.