MACM 101 Chapter

Alexander Ng

September 18, 2024

1 Prove that if $3n + 2$ is odd, then n is odd

Assume n is even.
$n = 2k, k \in \mathbb{Z}$

$$\begin{aligned} 3n + 2 &= 3(2k) + 2 \\ &= 6k + 2 \\ &= 2(3k + 1) \end{aligned}$$

$3n + 2 = 2j$
$j = 3k + 1$
Which shows that $j = 3k + 1$ is a multiple of 2. (Even)