Tutorial for Week 2 - Answers

Ben Weston

October 21, 2020

4. The result of the square of an odd number isn't wholly divisible by two therefore, and by contradiction, the result of an odd square must be odd.

$$\begin{aligned} n &= 2k+1 \\ n^2 &= (2k+1)^2 \\ &= 4k^2 + 4k + 1 \\ &= 2(2k^2 + 2k) + 1 \end{aligned}$$