Quiz 4 - Math 374, Frank Thorne (thorne@math.sc.edu)

Friday, September 22, 2017

(1) Prove: The sum of an even integer and an odd integer is odd.

Proof. Suppose that x is an even integer and that y is an odd integer. Then, there are integers m and n for which $x = 2m$ and $y = 2n + 1$. Thus, $x + y = 2m + 2n + 1 = 2(m + n) + 1$. Since we have written $x + y$ as twice an integer plus 1, it is odd, as desired.