Computer Science 260

Assignment 5

Due October 19, 2016

1. Give a proof by cases to prove that for all integers x, $x^2 - x$ is an even integer.
2. Give a proof by contraposition that for $a \in Z$, if $a^2 + 3$ is odd, then a is even.
3. Give a proof by contradiction for real numbers a and b that $\frac{a+b}{2} < b \Rightarrow a < b$.
4. Give a proof by contradiction that given integers j and k where $j \geq 2$ that then $j \not| k \vee j \not| (k+1)$.