MATH 10B
Section 211
GSI: Theo McKenzie

Quiz 4

Student:
SID:
Tue 2/19/19

True/False - No explanation needed. (For each: 1 point if correct, 0 points if not answered, -1 points if incorrect)

1. For any six sided die, regardless of whether it is fair or unfair, the probability that an odd number is rolled is $p(1) + p(3) + p(5)$, where $p(i)$ is the probability the number i is rolled.
   True/False

2. The formula for the nth Fibonacci number $\frac{1}{\sqrt{5}}(\phi^n - \overline{\phi}^n)$, where $\phi = \frac{1+\sqrt{5}}{2}$ and $\overline{\phi} = \frac{1-\sqrt{5}}{2}$, comes from the fact that ϕ and $\overline{\phi}$ are the two solutions to $x^2 - x - 1 = 0$.
   True/False

Problems - Need justification.

1. Set $a_1 = 1$ and $\log_2(a_{n-1} + 5) = a_n$ for $n \geq 2$. Show that $a_n \leq 3$ for every n.