

Quiz 1

Student ID Number:

Name _____

Math 180B, 3PM

Please justify all your answers

April 11, 2019

Please also write your full name on the back

1. Compute the continued fraction expansions of the following numbers.

(a) $\sqrt{11}$

(b) $\sqrt{n^2 + 2}$ where n is a positive integer

2. Let p_n/q_n be the convergents of $[a_1; a_2, \dots]$. Show that for $n \geq 2$

$$\frac{q_n}{q_{n-1}} = [a_n; a_{n-1}, \dots, a_2].$$

Bonus: come up with a similar expansion for p_n/p_{n-1} , assuming $a_1 > 0$.