

Quiz 3 - Take home - Due Monday, June 2, 2014

NAME: \_\_\_\_\_

To receive credit you MUST SHOW ALL YOUR WORK.

1. (13 pts) (a) Assuming the pattern continues, find the next two terms of the sequence and give a formula for the general term  $a_n$ .

$$a_1 = 3, a_2 = 7, a_3 = 11, a_4 = 15, a_5 = \text{_____}, a_6 = \text{_____}, \dots, a_n = \text{_____}, \dots$$

(b) For the sequence in part (a), find a simple formula for  $\sum_{k=1}^n a_k$

2. (13 pts) Same exercise as 1. with both parts (a) and (b), this time for the sequence

$$a_1 = \frac{1}{3}, a_2 = \frac{1}{15}, a_3 = \frac{1}{35}, a_4 = \frac{1}{63}, a_5 = \text{_____}, a_6 = \text{_____}, \dots, a_n = \text{_____}, \dots$$

*Hint for part (b).* Realize that the sum is telescopic. See the example done in class.