Name: _____ *Student ID Number:* _____

Spring 2022 Math 5A Worksheet 2

1. Find the exact value of each expression.
   (a) $\log_5 100 + \log_5 25 - 2\log_5 2$.
   (b) $e^{2\ln 6}$.

2. Find a formula for the general term a_n of the sequence, assuming that the pattern of the first few terms continues. (Assume that n begins with 1.)

$$\{a_n\} = \left\{\frac{1}{2}, \frac{-3}{4}, \frac{5}{8}, \frac{-7}{16}, \frac{9}{32}, \dots\right\}.$$

3. A fish farmer has 4000 catfish in his pond. The number of catfish increases by 8% per month and the farmer harvests 200 catfish per month.
   (a) Find the recursive relation of the catfish population P_n after n months with $P_0 = 4000$.
   (b) How many catfish are in the pond after three months? (Round your answer to the nearest integer.)