

Name(s): \_\_\_\_\_ Due 2/24.

Calculate the expected value and variance of the number of occurrences of the word  $AAAA$  and the word  $CGTA$  in a sequence of length  $10^6$ , using the Bernoulli model with  $p(A) = p(T) = 3/8 = 0.375$  and  $p(C) = p(G) = 1/8 = 0.125$ .