

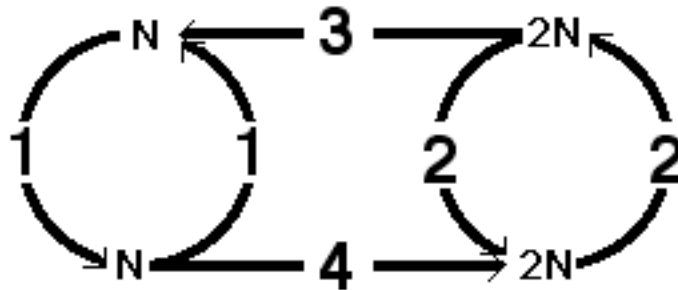
### QUIZ 1

**Instructions:** Print and sign your name at the top of the page. Show calculations so we know you actually did the problem rather than guess the answer. In multiple choice questions, circle the letter of the best answer. (Approximate number of points are in parentheses.)

1. (2) 15% of the bases in a gene of an animal are cytosine. What is the percentage of adenine in this gene? *Show your calculations.*

Answer 35%

2. (2) Suppose that a gene in a virus that has RNA for its genetic material has 15% cytosine. What is the percentage of uracil in this gene?
- (a) The same as in question 1.
  - (a) 15%
  - (b) 7.5%
  - (c) None, all genes are made of DNA which has thymine instead of uracil
  - (d) **Insufficient information to answer the question.**
3. (2) During DNA replication, why does DNA polymerase make the lagging strand discontinuous?
- (a) Proofreading leaves gaps after excising mismatched base pairs
  - (b) DNA polymerase sometimes falls off and has to start over
  - (c) **DNA polymerase only works 5' to 3'**
  - (d) DNA polymerase only works 3' to 5'
4. (4) In the general eukaryotic life cycle shown below, write the name of the process that is occurring at each number (one word each):



1 mitosis

2 mitosis

3 meiosis

4 syngamy