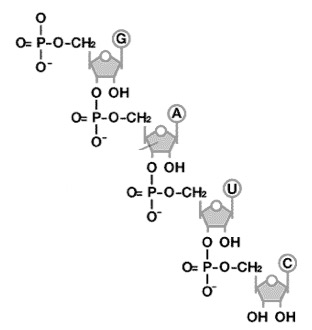
***CHEM-115 Quiz 8 (Chapter 15) November 17, 2017***

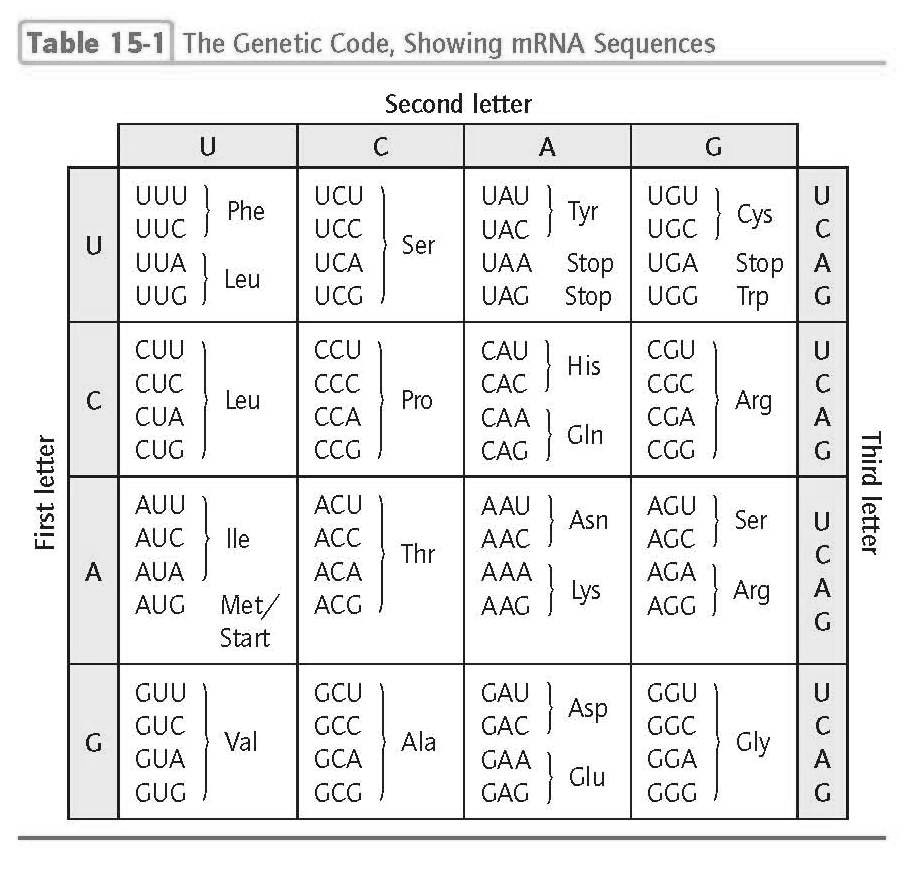
Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which of the following is an *incorrect* statement of the differences between RNA and DNA?
2. DNA is double stranded; RNA is single-stranded
3. DNA contains thymidine; RNA contains uracil
4. DNA contains ribose; RNA contains deoxyribose
5. DNA is highly stable; RNA degrades rapidly
6. On the nucleic acid diagram to the right:
   1. Identify whether this is: RNA or DNA

*(circle one)*

* 1. Put a **circle** around the **5’ end**
  2. Put a **box** around the **3’ end**

For a given DNA sequence, answer the following questions. You may use the chart to the right to help you identify the genetic code.

1. Fill in the complementary mRNA sequence to the DNA strand below, assuming that the **bottom strand** is the template strand for transcription:

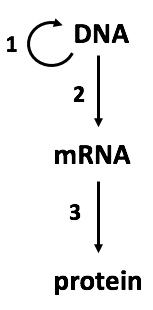
5’-GATGGAATTTAGACCTACGC-3’

3’-CTACCTTAAATCTGGATGCG-5’

**mRNA** 5’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3’

1. Indicate the **peptide sequence** encoded by this mRNA strand. You should identify the ‘*reading frame’* by identifying a start codon.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

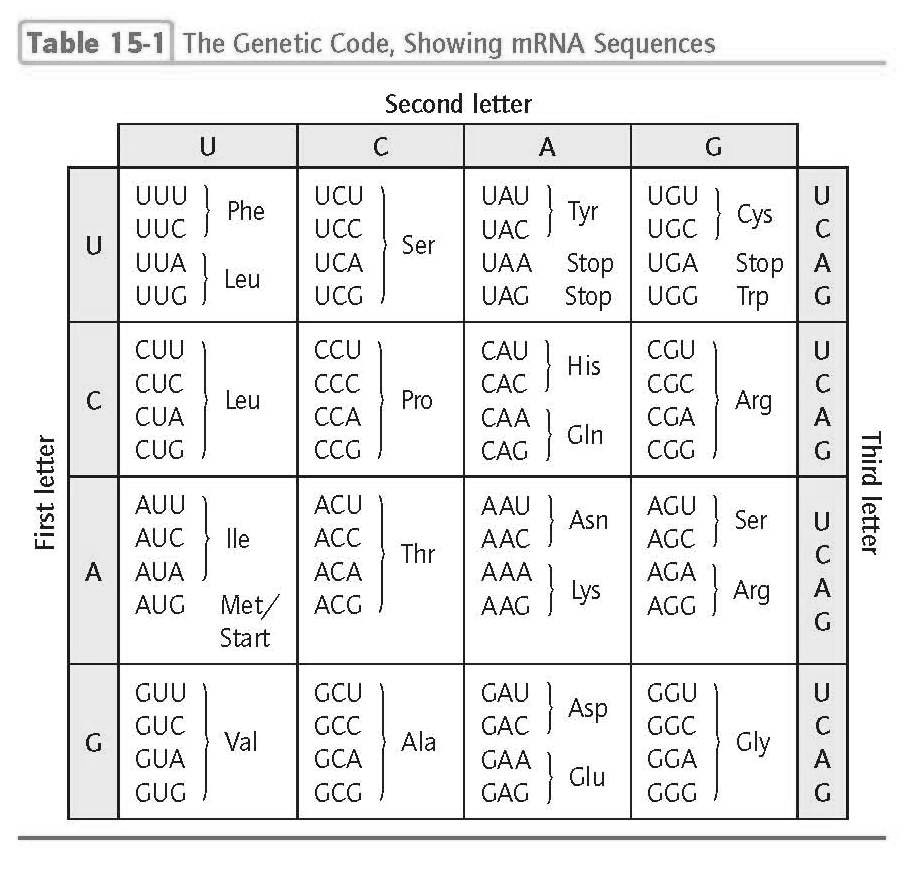
1. On the diagram to the right:
   1. Which process would involve a **ribosome**? \_\_\_\_\_\_\_
   2. Which processes require a **polymerase**? \_\_\_\_\_\_ & \_\_\_\_\_\_
   3. Which process depicts **replication**? \_\_\_\_\_\_

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Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For a given DNA sequence, answer the following questions. You may use the chart to the right to help you identify the genetic code.

1. Fill in the complementary mRNA sequence to the DNA strand below, assuming that the **bottom strand** is the template strand for transcription:



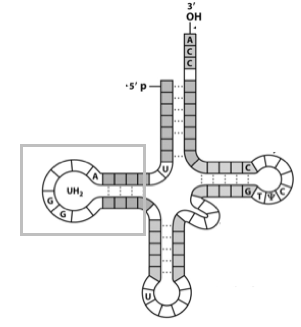
5’-GATGGAATTTAGACCTACGC-3’

3’-CTACCTTAAATCTGGATGCG-5’

**mRNA** 5’ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_3’

1. Indicate the **peptide sequence** encoded by this mRNA strand. You should identify the ‘*reading frame’* by identifying a start codon.

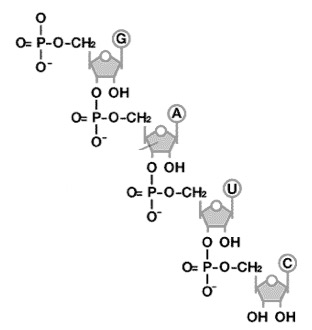
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. On the tRNA diagram to the right:
   1. Put a **circle** around the location of the **anticodon**
   2. Put a **box** around the location to which an **amino acid**

would connect to the tRNA

c) What kind of **RNA structure** is depicted in the gray box?

1. Which of the following is an *incorrect* statement of the differences between RNA and DNA?
2. DNA is double stranded; RNA is single-stranded
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