

CHAPTER 18**HANDOUT****Transcription and
Translation Worksheet****BLM 18.2.9**

Answer the following questions in the space provided.

1. Name the amino acids that correspond with the following mRNA codons:

- a) AGA _____
- b) GCC _____
- c) CUU _____
- d) UGA _____

2. A geneticist isolates a strand of DNA containing the following nucleotide sequence:

TACGGTCACATGATT

- a) Provide the nucleotide sequence of the mRNA strand transcribed from this sequence.

- b) What is the amino acid sequence of the polypeptide produced from this strand of mRNA?

- c) What is the nucleotide sequence of the tRNA anticodon that codes for the first amino acid in the polypeptide?

3. The same geneticist then isolates the following polypeptide: met-lys-his-trp.

- a) What amino acids make up this polypeptide?

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b) How many different nucleotide sequences could code for this polypeptide? List these sequences.

c) Which important characteristic of the genetic code is illustrated in b)? How does this characteristic reduce the number of amino acids that are incorrectly translated?
