Worksheet – Determination of Protein Amino Acids from Name **M-RNA's Codon chart.** Per Date Part 1 "Amino Acid / codon Wheel" Instructions: The "Wheel" at the right shows you how to determine which amino acid goes with UCAG UCAG UCA which m-RNA codon sequence. To decode a codon, start at the middle of the circle and move outward. Cysteine 1. Identify the amino acids what will be produced Valine Stop CU from the following m-RNAs codon: Tryptophan a. AAC ______ b. UCU _____ GA UC Arginine Leucine c. GAU______ d. CCC _____ Serine Lysine 2. What would the codon sequence (s) be for: U Leucine? GACU GACU Valine? soleucine 3. What are the m-RNA's stop codons: 4. What amino acid sequence would be made from the mRNA sequence CGCUAUAGC? Second Base U С Α G Part 2 "Amino Acid / codon Chart" Phe Ser Tyr Cys U Phe Ser Tyr Cys С Instructions: The "Chart" at the right shows you how to U A Ser Stop Stop Leu determine which amino acid goes with which m-RNA G Leu Ser Stop Trp codon sequence. To decode a codon, start with the First U Pro His Arg Leu Base, then the Second Base, and finally the Third Base. С Leu Pro His Arg С Third Base A G First Base Leu Pro Gln Arg 1. Identify the amino acids (you can get the full name from Pro Gln Arg Leu U the wheel) what will be produced from the following m RNAs lle Thr Asn Ser С Ser lle Thr Asn codon: Α Α Thr Arg a. GUA ______ b. UUU _____ lle Lys G Thr Met Lys Arg c. CAC ______ d. UAA _____ U Val Gly Ala Asp

2. Suppose the DNA sequence GCTATATCG was changed to GCGATATCG. How would the products of transcription and translation be affected?

mRNA sequence

 $\mathsf{GCTATATCG} \longrightarrow _ _ \longrightarrow$

Amino acid sequence

Val

Val

Val

G

Ala

Ala

Ala

Asp

Glu

Glu

Gly

Gly

Giv

С

Α

G

 $GCGATATCG \rightarrow$