Cells-Genetics– Chapter 2/3 Review

Name: _____ Date: _____ Period:_____

Define the words listed below.

1) Heterozygous

1) homozygous

2) allele

3) genotype

4) hybrid

5) nucleus

6) transfer RNA

7) ribosome

8) messenger RNA

9) phenotype

10) purebred

11) probability

12) Codon

13) amino acid

14) Describe the process of protein synthesis begin with DNA in the nucleus and end with a protein in the cytoplasm.

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15) Describe the process of photosynthesis including 1) ingredients, 2) where in a cell it happens, 3) products, and an 4) accounting for where the "energy" is (4 points)

16) What happens during respiration? (1 point)

Fill in the words in the sentences below.

17) The different forms or versions of a gene are called _____.

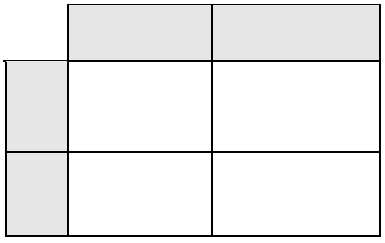
18) Complete a Punnett's square for the trait, pod color, in peas. (3 points)

G is dominant for green color. **g is recessive for yellow color**

Parent is homozygous green and parent 2 is homozygous yellow.

Alleles from P1 _____

Alleles from P2_____



How many possible genotypes are there?

What is the probability that the offspring will have yellow pods?

19) Describe what happens during each of the three main stages of the cell cycle. (3 points)

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20) What is a chromosome? (1 point)

21) Illustrate the stages of Meiosis and Mitosis, label the stages with a few words to describe what is happening. (3 points)

22) List and Describe the 8 steps of Inquiry

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Circle the correct response

23) In the genetic code a group of 3 nitrogen bases code for the production of specific

a) messenger RNA b) protein

c) transfer RNA d) amino acids

24) For co-dominant traits, heterozygote offspring have the phenotype of

a) both alleles b) only the recessive allele

c) neither the dominant nor the recessive d) only the dominant allele

Compare and Contrast

25) Compare and contrast RNA and DNA (3 points)

26) Proteins are made of _____.

27) According to the chromosome theory of inheritance, _____ are carried from the parents to their offspring on chromosomes.

28) Given that **Long hair L** is dominant and **short hair l** is recessive.

Show the possible outcomes from crossing a purebred (homozygous) long haired with a purebred (homozygous) short haired.

Alleles from P1 _____

Alleles from P2_____

What is the probability that short haired will appear?