

**Biology 111 In-Class Exam #4 – Cancer, HIV, & Genetic Engineering**

There is no time limit on this test, though I have tried to design one that you should be able to complete within 20 minutes. You are not allowed to look at anyone else's paper, nor use your notes, old tests, any electronic sources, books, nor are you allowed to discuss the test with anyone until all exams are turned in at 11:20 am on Wednesday May 9. You may use a calculator, multiple colors, and/or a ruler. If you do not write your answers in the appropriate location, I may not find them.

**-3 pts if you do not follow this direction.**

**Please do not write or type your name on any page other than this cover page.**

Staple all your pages (INCLUDING THE TEST PAGES) together when finished with the exam.

Name (please print):

Read the pledge and sign if you can do so with honor:

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On my honor I have neither given nor received unauthorized information regarding this work, I have followed and will continue to observe all regulations regarding it, and I am unaware of any violation of the Honor Code by others.

Lab Question:

**3 pts.**

1) List the three types of genes mutated in the auxotrophic Ames strains of *Salmonella* that we used in lab.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Lecture Questions:

**6 pts.**

2) List the parts of MPF. In one sentence or less, describe each part's function.

**4 pts.**

3) In two sentences or less, explain what's wrong with the expression used by most Americans, "Some day, we may find the cure for cancer."

**6 pts.**

4) List all the molecules carried by HIV inside its capsid.

**6 pts.**

5) List the main receptors on human cells used by HIV to bind to human cells.

**4 pts.**

6) Do antibiotics work against viruses? Explain your answer.

**6 pts.**

7) Draw pictures of the major steps required to clone the cat CC. Be sure to label the key parts of your pictures.