

Name _____

HW10 covers Ch12 on biotechnology. Due in class on Thursday, Nov 30h, or complete the online version of HW10 in the quiz tab on Canvas.

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) The world's first genetically engineered pharmaceutical product was _____. 1) _____
A) tPA B) humulin C) HGH D) EPO
- 2) A vaccine works by _____. 2) _____
A) killing cells infected with a virus
B) preventing translation of mRNA molecules that code for disease-causing proteins
C) stimulating the immune system to develop lasting defenses
D) inhibiting bacterial reproduction
- 3) Transgenic animals are currently used _____. 3) _____
A) as food
B) as vectors for use in cloning human DNA
C) to produce potentially useful proteins
D) all of the answer options are correct
- 4) Which of the following can act as a vector to introduce new genes into a cell? 4) _____
A) restriction enzymes B) primers
C) plasmids D) ligase
- 5) Of these steps, which occurs first in the production of a recombinant plasmid? 5) _____
A) cutting DNA into fragments
B) reproduction of the engineered plasmid in bacteria
C) isolation of a plasmid from a bacterium
D) cloning
- 6) When plasmids are used to produce a desired protein, the _____. 6) _____
A) bacterial genome and plasmid are inserted into the genome of the cell containing the desired gene
B) desired gene is inserted into the plasmid, and the plasmid is taken up by the bacterium
C) bacterial chromosome is genetically engineered, and the plasmid is used to help the bacterium replicate
D) plasmids multiply and produce the protein outside of the bacterium
- 7) The process of making multiple copies of a gene by inserting it into a host genome and culturing the host is an example of _____. 7) _____
A) whole-genome shotgun method B) PCR
C) gene cloning D) STR analysis
- 8) Restriction enzymes are obtained from _____. 8) _____
A) bacteria B) eukaryotes C) viruses D) archaea

9) Which enzyme is used to bind DNA fragments together?

A) DNA ligase

B) restriction enzyme

C) DNA polymerase

D) lysozyme

9) _____

10) "Sticky ends" are produced as a result of the action of _____.

A) restriction enzymes

B) PCR

C) DNA ligase

D) bacterial plasmids

10) _____