

Biotech Term 3 Test

True/False

Indicate whether the statement is true or false.

- ___ 1. When you are using a gel to perform electrophoresis, the gel is covered with TAE buffer after you put the DNA in the wells.
- ___ 2. The purpose of the loading dye in electrophoresis is to stain the DNA after it has moved through the agarose gel.
- ___ 3. PCR stands for Polymerase Chain Reaction.
- ___ 4. PCR is used to separate DNA according to size.
- ___ 5. DNA gel electrophoresis is the process that can be used to make a DNA fingerprint.

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- ___ 6. Gel electrophoresis is a technique used to _____.
 - a. clone chromosomes of various species
 - b. cut DNA into fragments of various sizes
 - c. separate DNA fragments by charge and length
 - d. inject foreign DNA into animal and plant cells
- ___ 7. A small amount of DNA obtained from a mummy or from frozen remains of a human may be cloned. In order to clone small amounts of DNA, _____ needs to be used to generate larger quantities of the DNA.
 - a. polymerase chain reaction techniques
 - b. gel electrophoresis
 - c. DNA fingerprinting
 - d. gene splicing
- ___ 8. Examine the pieces of DNA represented in Figure 13-1. Why are the nucleotide sequences on both strands referred to as palindromes?

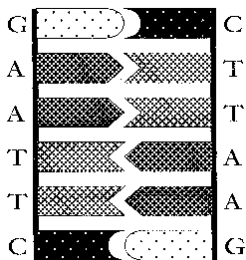


Figure 13-1

- a. the sequences show chromosome mutation
 - b. the DNA is an example of a transgenic codon
 - c. the sequences are the same but run in opposite directions
 - d. each nucleotide is represented
- ___ 9. The process used to separate DNA segments of different lengths is _____.
 - a. PCR
 - b. gel electrophoresis
 - c. gene amplification
 - d. all of these

10. What must be on either end of any genetic material that is inserted into the cleaved DNA in Figure 13-5?

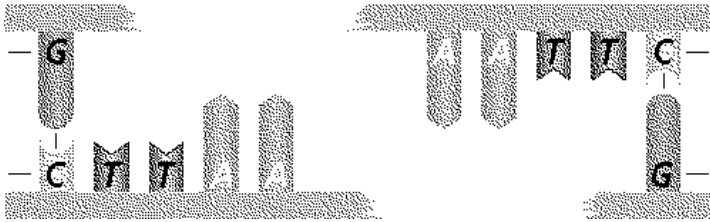


Figure 13-5

- a. AATT
- b. ATAT
- c. CCGG
- d. CGCG

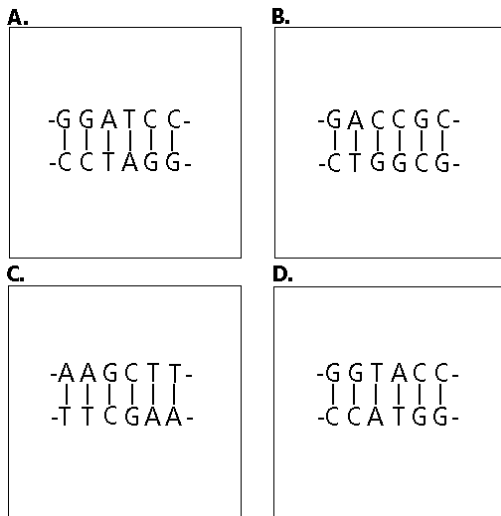


Figure 13-6

11. Which segment in Figure 13-6 is not a palidrome?

- a. A
- b. B
- c. C
- d. D

12. According to Figure 13-7, which DNA sequence will be cleaved by EcoRI, which cuts AATT/TTAA?

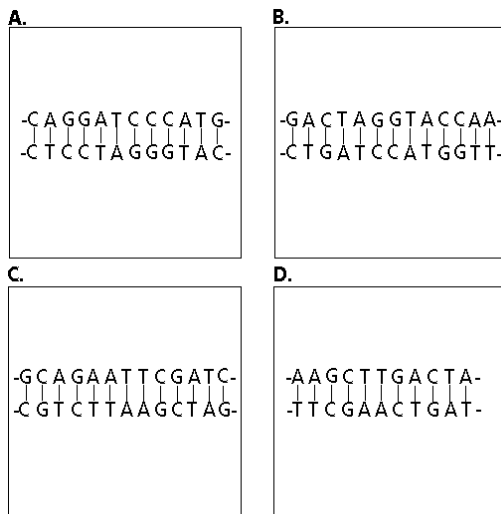


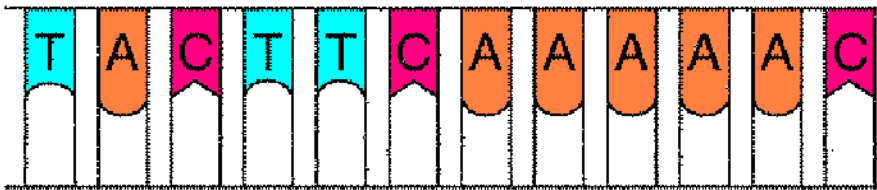
Figure 13-7

- a. A
- b. B
- c. C
- d. D

Child	A		B		C		D	
	A	B	C	D	E	F	G	H
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1

Figure 13-8

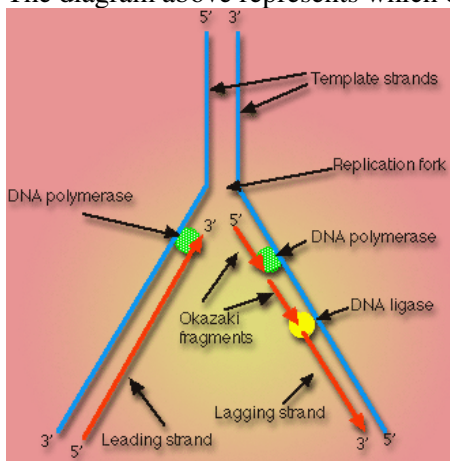
- ___ 13. According to Figure 13-8, which are the parents of the child?
- a. A
 - b. B
 - c. C
 - d. D
- ___ 14. Which of the following must happen first in order for DNA replication to occur?
- a. DNA polymerase binds to the leading strand
 - b. DNA is unwound
 - c. Hydrogen bonds form between bases
 - d. chromosomes condense
- ___ 15. Okazaki fragments form on the:
- a. lagging strand
 - b. base-pairs
 - c. leading strand
 - d. 5' end
- ___ 16. A nucleotide consists of:
- a. a nitrogen base
 - b. a nitrogen base and a sugar
 - c. a nitrogen base, sugar, and phosphate
 - d. two nitrogen bases, a sugar, and a phosphate
- ___ 17. What is the sequence of matching (complementary) DNA bases that would bond to the strand pictured below?



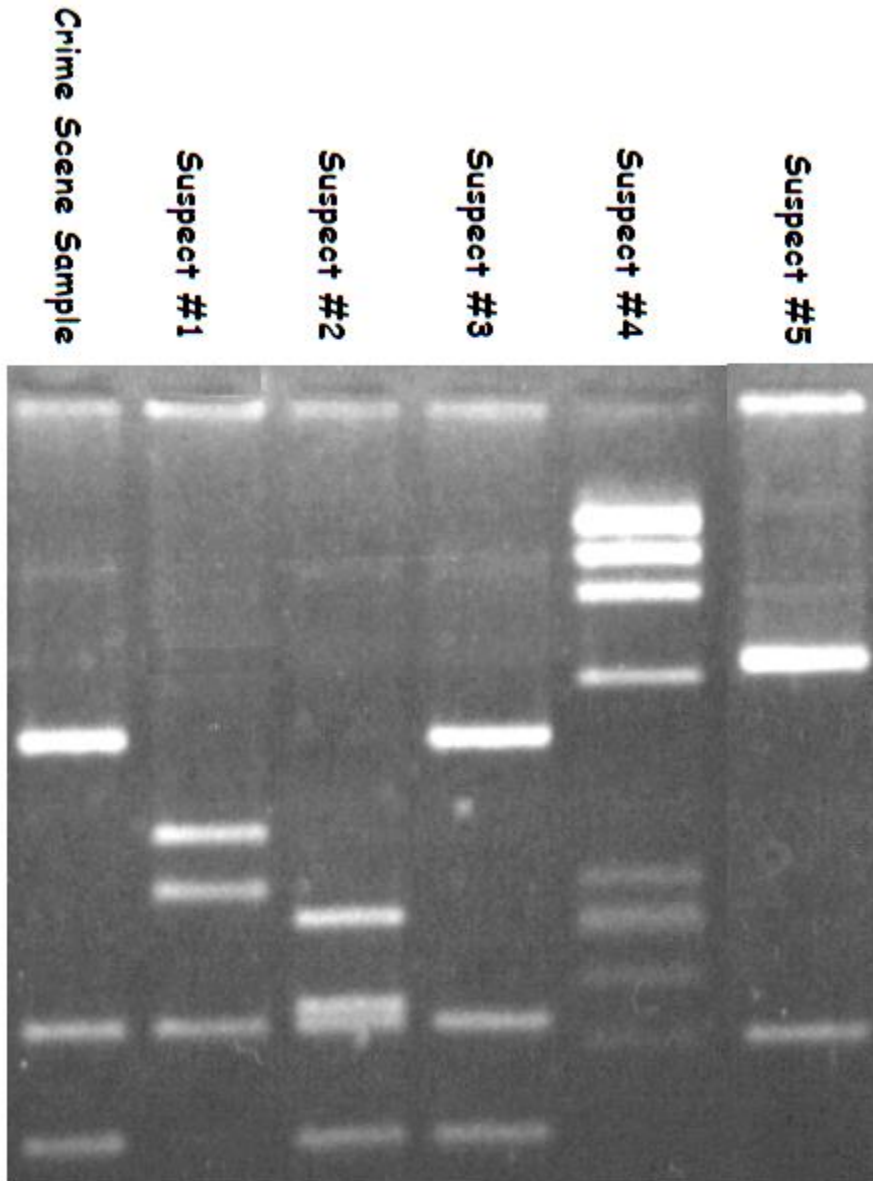
- a. ATGAAGTTTTTTG
 - b. ATGAAGTTATTG
 - c. ATGAAGTTTTTTG
 - d. ATCAAGTTTTTTG
- ___ 18. The process of DNA replication is called a _____ process.
- a. Dispersive
 - b. Semiconservative
 - c. Conservative
 - d. Random
- ___ 19. What is the complementary strand of the following DNA strand: 5' GCACGUUUACCGA 3' ?
- a. 3' AUGCGUUUACCGA 3'
 - b. 3' TACGCAAATGGCT 5'
 - c. 3' CGUGCAAUGGCU 5'
 - d. 3' CGTGCAATGGCT 5'

- c. 3' AGCCAUUUGCGUA 5' f. none of the above.
- ___ 20. If you start with 1 strand of DNA in the tube, the number of amplified pieces of DNA equals ___ after five cycles of PCR.
- a. 5 c. 25
b. 10 d. 32
- ___ 21. Place in order the following steps involved in PCR:
- (1) newly synthesized strands act as templates
- (2) temperature lowered; DNA primers and polymerase added
- (3) heat separates strands of target DNA
- (4) complementary base pairing between primers and template
- (5) DNA nucleotide bases added; new strand synthesized
- a. 1 - 2 - 3 - 4 c. 3 - 2 - 4 - 5 - 3 - 1
b. 3 - 5 - 4 - 2 - 3 - 1 d. 2 - 3 - 4 - 5 - 2 - 1
- ___ 22. What is the name of the enzyme used in the PCR reaction to copy the template segment of DNA?
- a. DNA Polymerase I d. Taq Polymerase
b. DNA Polymerase II e. DNA Taq
c. DNA Polymerase III
- ___ 23. What is PCR good for?
- a. To check expression of a gene
b. To see if your gene is damaged
c. To make a few copies of your gene
d. To make a huge number of copies of a gene
- ___ 24. What are the three major steps of the reaction in the correct order?
- a. Annealing, Denaturation, Extension
b. Denaturation, Annealing, Extension
c. Extension, Denaturation, Annealing
d. Denaturation, Extension, Annealing
- ___ 25. What kind of chemical bonds are found between paired bases of the DNA double helix?
- a. phosphate c. covalent
b. ionic d. hydrogen
- ___ 26. Enzymes called ___ catalyze the formation of covalent bonds that hold together the sugar-phosphate backbone of the DNA molecule.
- a. DNA polymerases c. ligases
b. helicases d. RNA polymerases
- ___ 27. What does A stand for?
- a. a good grade c. Adipose
b. Adenine d. Adenosine
- ___ 28. The Purines are:

- a. A and G
 - b. A and T
- c. A and C
 - d. C and G
- ___ 29. A Purine always pairs with
- a. only other purines
 - b. either purines or pyrimidines
 - c. any pyrimidine
 - d. a specific pyrimidine
- ___ 30. The backbone of a DNA molecule is made of which two components?
- a. phosphate molecules and ribose sugars
 - b. deoxyphosphate molecules and ribose sugars
 - c. phosphate molecules and deoxyribose sugars
 - d. deoxyphosphate molecules and deoxyribose sugars
- ___ 31. DNA is a polymer of:
- a. nucleosides
 - b. fatty acids
 - c. deoxyribose sugars connected by phosphodiester bonds
 - d. nucleotides
- ___ 32. In the 1940s, Erwin Chargaff discovered that
- a. DNA has about the same amount of adenine as thymine, and of cytosine as guanine
 - b. all four nitrogenous bases come in nearly equal amounts
 - c. DNA is the genetic material
 - d. DNA exists in the shape of a double helix
- ___ 33. That a DNA molecule's sides are antiparallel means that
- a. they frequently intersect each other
 - b. the nucleotides on either side run in opposite directions
 - c. they are composed of nucleotides
 - d. DNA indirectly controls the production of proteins
- ___ 34. The diagram above represents which of the following processes?



- a. Transcription
 - b. Replication
 - c. Polymerization
 - d. Translation
- ___ 35. In the DNA Fingerprint below, which of the suspects is the contributor of DNA at the crime scene?



- a. Suspect #1
- b. Suspect #2
- c. Suspect #3
- d. Suspect #4
- e. Suspect #5

- ___ 36. When you do DNA electrophoresis, what are you sorting the strands by?
- a. Length
 - b. Color
 - c. Type of gene
 - d. Charge
- ___ 37. The two polynucleotide chains (backbones) in a molecule of DNA are:
- a. parallel
 - b. discontinuous
 - c. anticomplementary
 - d. antiparallel
- ___ 38. The gels we used in the PCR lab and the Crime Scene Lab were made of:
- a. acrylamide
 - b. agar
 - d. agarose
 - e. amber

c. aspic

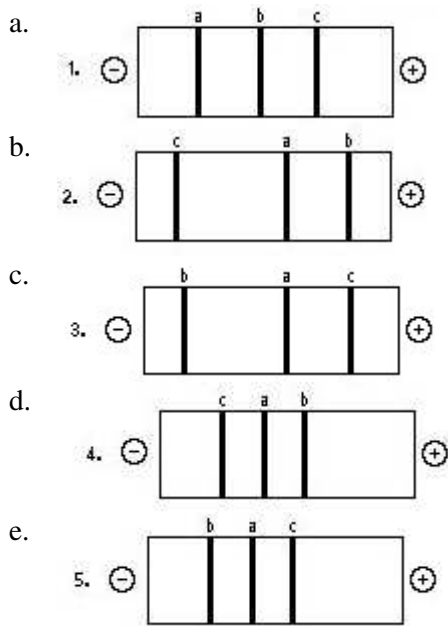
- ___ 39. If a circular piece of DNA has three sites for a particular restriction enzyme, into how many fragments will that restriction enzyme cut the DNA?
- 2
 - 4
 - 3
 - 5
 - The answer cannot be predicted.
 - There is an answer, but it is none of the above.
- ___ 40. If a **linear** piece of DNA has three sites for a particular restriction enzyme, into how many fragments will that restriction enzyme cut the DNA?
- 2
 - 4
 - 3
 - 5
 - The answer cannot be predicted.
 - There is an answer, but it is none of the above.
- ___ 41. A restriction enzyme digestion reaction of a piece of DNA utilizes which particular ingredients in the list below?
- water
 - ethyl alcohol
 - DNA
 - buffer
 - alcohol dehydrogenase
 - restriction enzyme
- 1, 2, 3 and 4
 - 1, 2, 3, 4, and 5
 - 2, 3, 4, and 5
 - 1, 3, 4, and 6
 - 1, 3, 4, and 5
 - 2, 3, 4, and 6
 - all ingredients listed
- ___ 42. In gel electrophoresis, the marker DNA is useful:
- for showing that DNA can stain orange with ethidium bromide
 - for showing the size of any DNA band that corresponds with a marker DNA band
 - for telling you when to stop the electrophoresis experiment
 - for allowing you to calculate the size of any DNA band in other lanes on the same gel
- ___ 43. Toward which pole (positive or negative) does DNA migrate when electric current is run through the gel?
- Positive
 - Negative
 - Both

- b. Negative
- d. Neither

- ___ 44. Why does the electricity cause the DNA molecules move through the agarose during electrophoresis?
- a. The DNA molecules are positively charged (opposite charges attract one another).
 - b. The DNA molecules are negatively charged (opposite charges attract one another).
 - c. The DNA molecules have no charge and are repulsed by anything with a charge.
 - d. The process is not very well understood.
- ___ 45. What would happen to the DNA fragments if you forgot to turn the electric current off?
- a. The DNA fragments would keep on running through the gel until they ran off the end.
 - b. The DNA fragments would reach a point where they could no longer move in the gel and settle out.
 - c. The DNA fragments would break apart and become unreadable.
 - d. The DNA fragments would keep on running through the gel and halt at the most distant position as possible from the well.
- ___ 46. Describe how different sized DNA fragments are separated by the gel matrix.
- a. Longer DNA fragments take longer to work their way through the pores of the gel matrix, they don't travel as far through the gel as the shorter fragments in the same amount of time.
 - b. Shorter DNA fragments take longer to work their way through the pores of the gel matrix, they don't travel as far through the gel as the longer fragments in the same amount of time.
 - c. Longer DNA fragments work their way through the pores of the gel matrix at the same rate as shorter ones, but since they are longer, they leave centralized deposits along the path they followed, creating the bands of DNA that form the fingerprint.
 - d. More negative pieces of DNA move further through the gel matrix and less negative ones. Therefore the more negative pieces make it further in the gel than the less negative ones.
- ___ 47. Restriction enzymes will cut DNA from different people into different patterns of fragments because
- a. the restriction enzyme cuts DNA randomly.
 - b. once a fragment is cut once, it is more likely to be cut again.
 - c. genetic differences between individuals' DNA will add or remove sites for the enzyme to cut.
 - d. the restriction enzymes cut DNA into fragments of all equal length.
 - e. all human DNA is identical.
- ___ 48. This segment of DNA has restriction sites I and II, which create restriction fragments a, b, and c. (Figure 19.1) Which of the following gels produced by electrophoresis would represent the separation and identity of these fragments?



Figure 19.1



___ 49. Use the following information and Figure 19.4 to answer the question(s).

A DNA fragment of unknown sequence is divided into four portions and mixed with all the elements necessary to synthesize the complementary strand. To each of these four mixtures a different deoxynucleotide is added in addition to the normal nucleotides. ddnucleotides compete with the normal nucleotides for insertion into the synthesizing strand of DNA. When a ddnucleotide is added the synthesis of the strand stops. Each mixture is then separated by electrophoresis and the gel in Figure 19.4 is obtained.

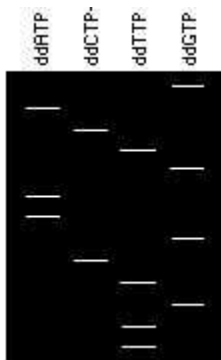
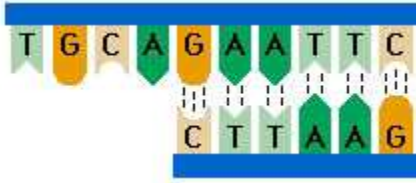


Figure 19.4

What is the sequence of the original template?

- | | |
|------------------|------------------|
| a. ACTGAAGTGTGG | d. GACTGAAGCTGTT |
| b. CTGACTTCGACAA | e. AACAGCTTCAGTC |
| c. TTGTCGAAGTCAG | |

___ 50. The sticky end of the DNA restriction fragment shown here reads _____.



- a. UGCA
- b. TGCA
- c. ACGT
- d. TCGA

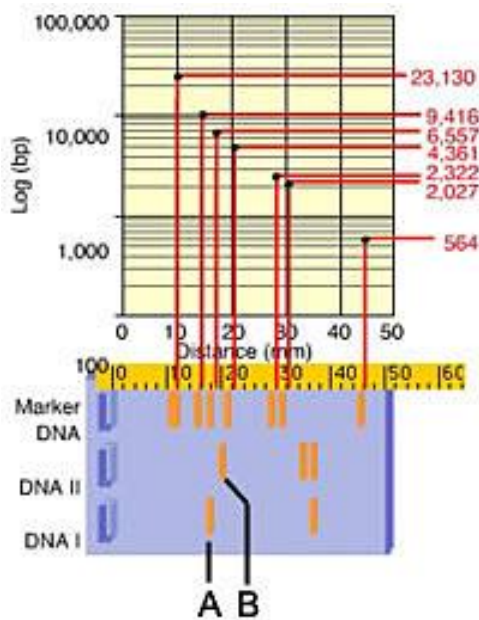
51. The unpaired nucleotides produced by the action of restriction enzymes are referred to as _____.

- a. sticky ends
- b. base sequences
- c. single strands
- d. restriction fragments
- e. ligases

52. In gel electrophoresis DNA molecules migrate from _____ to _____ ends of the gel.

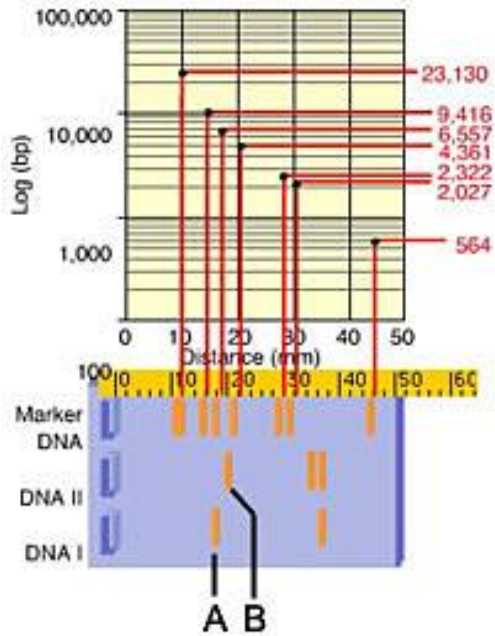
- a. acidic ... basic
- b. negative ... positive
- c. basic ... acidic
- d. long ... short
- e. positive ... negative

53. In this example the marker DNA includes fragments that have 23,130, 9,416, 6,557, 4,361, 2,322, 2,027, and 564 base pairs. Approximately how many base pairs are in the DNA fragment indicated by the letter A?



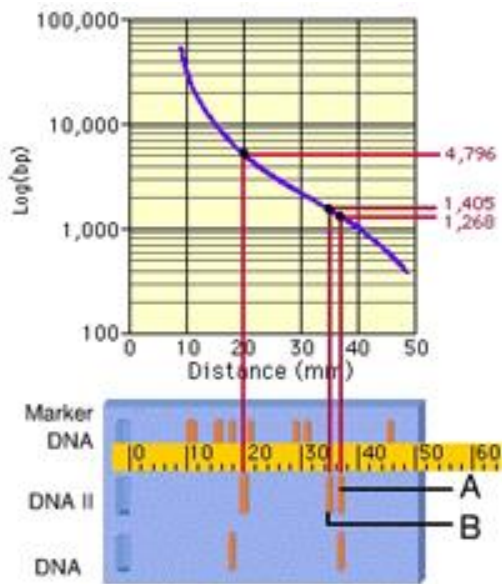
- a. 564
- b. 2,027
- c. 2,322
- d. 6,557
- e. 9,416

54. In this example the marker DNA includes fragments that have 23,130, 9,416, 6,557, 4,361, 2,322, 2,027, and 564 base pairs. Approximately how many base pairs are in the DNA fragment indicated by the letter B?



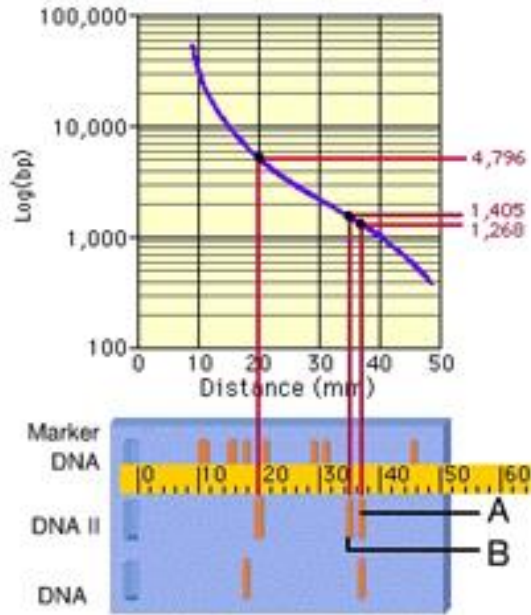
- between 23,130 and 9,416 base pairs
- between 6,557 and 4,361 base pairs
- between 9,416 and 6,557 base pairs
- between 2,322 and 2,027 base pairs
- between 4,361 and 2,322 base pairs

___ 55. DNA fragment B consists of ___ base pairs.



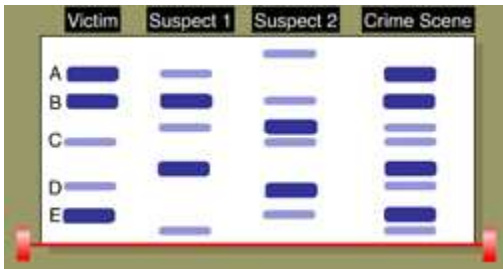
- 564
- 1,268
- 1,405
- 2,027
- 2,322

___ 56. DNA fragment A consists of ___ base pairs.



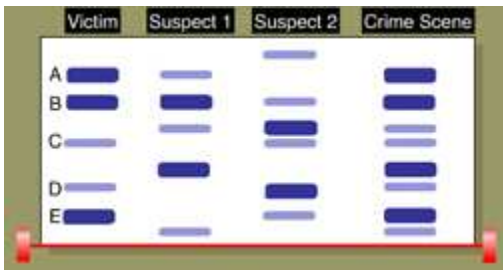
- a. 564
- b. 1,268
- c. 1,405
- d. 2,027
- e. 2,322

57. This is a DNA fingerprint exhibiting samples from a victim, two suspects, and the crime scene. Which of these DNA fragments is common to both the victim and Suspect 1? (Hint, must be same position and thickness.)



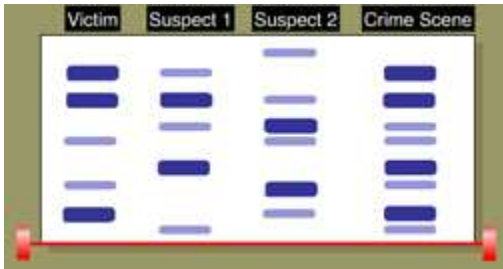
- a. A
- b. B
- c. C
- d. D
- e. E

58. This is a DNA fingerprint exhibiting samples from a victim, two suspects, and the crime scene. Which of these DNA fragments is common to both the victim and Suspect 2?



- a. A
- b. B
- c. C
- d. D
- e. E

59. Why is Suspect 1 considered more likely to have committed the crime than Suspect 2?



- The crime scene sample contains DNA fragments from both the victim and Suspect 1.
- The crime scene sample contains DNA fragments from both the victim and Suspect 2.
- Suspect 1 and the victim have more DNA fragments in common than do the victim and Suspect 2.
- Suspect 2 and the victim have more DNA fragments in common than do the victim and Suspect 1.
- Suspect 1 and Suspect 2 have more DNA fragments in common than either have in common with the victim.

- ___ 60. What is the name given to the short stretches of DNA formed on the lagging strand?
- Hiorshimi fragments
 - Okazaki fragments
 - Japanese fragments
 - Okanuri fragments
- ___ 61. DNA replication is extremely accurate. Only about one in ___ bases is incorporated incorrectly.
- 100,000
 - 1 million
 - 10 million
 - 100 million
 - 1 billion
- ___ 62. Place in order the following steps involved in PCR: (1) newly synthesized strands act as templates (2) temperature lowered; DNA primers and polymerase added (3) heat separates strands of target DNA (4) complementary base pairing between primers and template (5) DNA nucleotide bases added; new strand synthesized
- 1 - 2 - 3 - 4
 - 3 - 5 - 4 - 2 - 3 - 1
 - 3 - 2 - 4 - 5 - 3 - 1
 - 2 - 3 - 4 - 5 - 2 - 1
- ___ 63. Which bond exists between Guanine and Cytosine in a DNA molecule?
- Phosphodiester bond
 - Covalent bond
 - Hydrogen bond
 - All of the above

Multiple Response

Identify one or more choices that best complete the statement or answer the question.

- ___ 64. Which of these people should receive credit for discovering the structure of DNA? (Choose 3)
- James Watson
 - Joseph Griffiths
 - Francis Crick
 - Anton Avery
 - Rosalind Franklin
 - Freidrick Meicher
- ___ 65. Which of these is NOT found in DNA? (Choose 3)
- Thymine
 - Adnine
 - Uracil
 - Phosphate
 - Ribose
 - Deoxyribose

d. Guanine

h. Ionic Bonds

Matching

Match the enzymes in DNA replication with their correct function.

a. DNA Helicase

e. DNA Polymerase III

b. RNA Primase

f. Ligase

c. RNase H

g. Single Strand Binding Proteins (SSBP)

d. DNA Polymerase I

- ___ 66. Removes the RNA Primers from the DNA backbone after replication is completed.
- ___ 67. This enzyme unwinds and unzips the DNA strand to begin replication.
- ___ 68. The enzyme that adds the RNA primers to the DNA backbones that are being copied.
- ___ 69. Adds DNA nucleotides to the newly synthesized DNA backbone in the place where the RNA primers were removed.
- ___ 70. This is the enzyme that adds new DNA nucleotides to the growing DNA strand.
- ___ 71. Bonds the sections of backbone together on the lagging strand to complete the DNA strand.
- ___ 72. These bond to the DNA backbones to keep them from reannealing while replication begins.

Answer the following questions about the process of PCR:

a. Extension

b. Denaturing

c. Annealing

- ___ 73. In a single cycle of the PCR process, what is the first step?
- ___ 74. In a single cycle of the PCR process, what is the second step?
- ___ 75. In a single cycle of the PCR process, what is the final step?
- ___ 76. In a single cycle of the PCR process, in which step does the temperature increase to its highest point?
- ___ 77. In a single cycle of the PCR process, which step is where the primers attach to the DNA template?
- ___ 78. In a single cycle of the PCR process, in which step do the DNA nucleotides get added to the new backbone?
- ___ 79. In a single cycle of the PCR process, in which step do the backbones untwist and separate?

Match the theory of how DNA replicates with its correct name.

a. Conservative

c. Dispersive

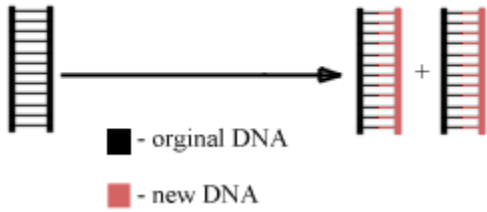
b. Semiconservative

Looks Like:



- ___ 80.

Looks Like:



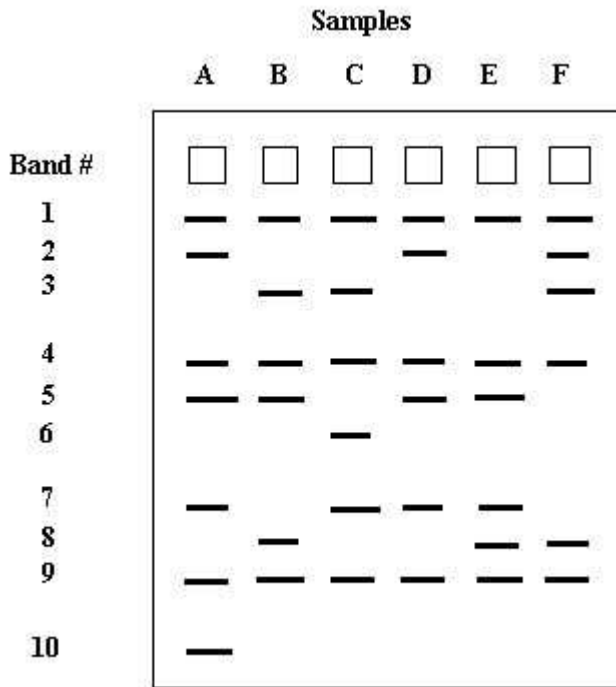
___ 81.

Looks Like:



___ 82.

Examine the diagram of an agarose gel below and answer the following questions.



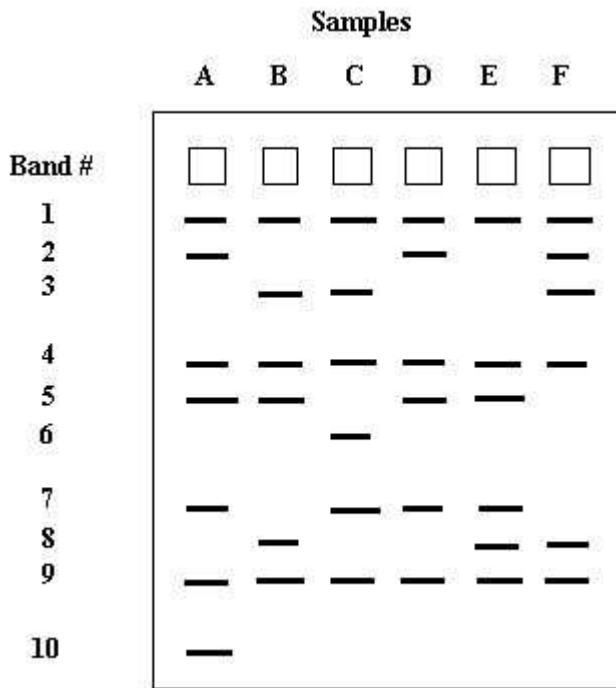
- a. Many DNA fragments of different sizes for different individuals.
- b. The bands nearest the wells (containing the longest DNA fragments).
- c. The bands farthest from the wells (containing the shortest DNA fragments).

___ 83. Which band(s) traveled slowest?

___ 84. What do the bands in the drawing of the agarose gel represent?

___ 85. Which band(s) traveled fastest?

Examine the diagram of an agarose gel below and answer the following questions.



- | | |
|-----------|-------------------------|
| a. Band 1 | j. Band 10 |
| b. Band 2 | k. Bands 1 & 4 |
| c. Band 3 | l. Bands 1, 4 & 9 |
| d. Band 4 | m. Bands 1 & 9 |
| e. Band 5 | n. Bands 4 & 9 |
| f. Band 6 | o. Bands 1, 4, 7.5, & 9 |
| g. Band 7 | p. Bands 6, 7 & 10 |
| h. Band 8 | q. Bands 2, 6 & 10 |
| i. Band 9 | r. Bands 6 & 10 |

- ___ 86. In the diagram above, which band was closest to the negative electrode during electrophoresis?
- ___ 87. In the diagram above, which band was closest to the positive electrode during electrophoresis?
- ___ 88. Which DNA band(s) is/are found in all of the individuals tested?
- ___ 89. Which DNA band(s) is/are unique to one individual?

Consider the following scenario:

A 23 year old male was found murdered in the hallway of his apartment building. Investigators collected many samples of evidence including blood found on a knife near the body and hair from the victim's shirt. Police had two suspects due to eyewitness accounts. Both suspects, the victim and the evidence were analyzed using DNA fingerprinting.

DNA fingerprint: electrophoresis of restriction fragments



- a. the victim
- b. suspect #1
- c. suspect #2
- d. both the victim and suspect #1
- e. both the victim and suspect #2

- ___ 90. Who does the hair evidence found at the crime scene most likely belong to?
 ___ 91. Who does the blood evidence found at the crime scene most likely belong to?

For Questions 9–12, consider the following scenario:

A 23 year old male was found murdered in the hallway of his apartment building. Investigators collected many samples of evidence including blood found on a knife near the body and hair from the victim's shirt. Police had two suspects due to eyewitness accounts. Both suspects, the victim and the evidence were analyzed using DNA fingerprinting.

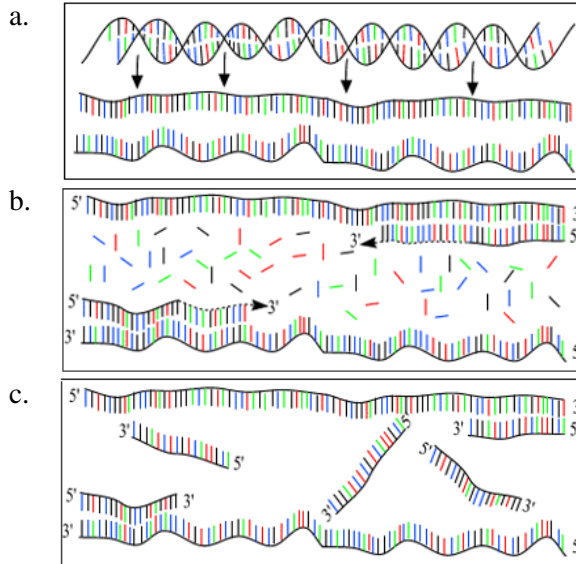
DNA fingerprint: electrophoresis of restriction fragments



- a. He/She's innocent.
- b. He/She's guilty.
- c. There is no direct DNA evidence that he was at the crime scene.
- d. Someone matching his genetic fingerprint was at the crime scene.

- ___ 92. What does the forensic DNA analysis say most clearly about Suspect #1?
 ___ 93. What does the forensic DNA analysis say most clearly about Suspect #2?

Match the pictures below with the correct name of the step in the process of PCR or with the correct description of that step:



- 94. This step is called “Denaturing”
- 95. This step is called “Annealing”
- 96. This step is called “ Extension”
- 97. In this step, the DNA molecule is heated up in an effort to cause the two backbones to separate from one another.
- 98. In this step, The primers are bonding to the template DNA.
- 99. In this step, the individual nucleotides are being added to complete the copy of the template DNA.

Biotech Term 3 Test Answer Section

TRUE/FALSE

- | | |
|-----------|--------|
| 1. ANS: F | PTS: 1 |
| 2. ANS: F | PTS: 1 |
| 3. ANS: T | PTS: 1 |
| 4. ANS: F | PTS: 1 |
| 5. ANS: T | PTS: 1 |

MULTIPLE CHOICE

- | | | | |
|-------------------|-------------------------------------|--------|-----------|
| 6. ANS: C | PTS: 1 | DIF: B | OBJ: 13-3 |
| NAT: F4 F5 F6 | STA: BS.4.3.a BS.4.3.b | | |
| 7. ANS: A | PTS: 1 | DIF: A | OBJ: 13-4 |
| NAT: F1 F5 F6 | STA: BS.4.3.a BS.4.3.b BS.4.3.c | | |
| 8. ANS: C | PTS: 1 | DIF: A | OBJ: 13-4 |
| NAT: F1 F5 F6 | STA: BS.4.3.a BS.4.3.b BS.4.3.c | | |
| 9. ANS: B | PTS: 1 | DIF: B | OBJ: 13-3 |
| NAT: F4 F5 F6 | STA: BS.4.3.a BS.4.3.b | | |
| 10. ANS: A | PTS: 1 | DIF: A | OBJ: 13-2 |
| NAT: F1 G1 G2 | STA: BS.4.3.a BS.4.3.b | | |
| 11. ANS: B | PTS: 1 | DIF: B | OBJ: 13-3 |
| NAT: F4 F5 F6 | STA: BS.4.3.a BS.4.3.b | | |
| 12. ANS: C | PTS: 1 | DIF: B | OBJ: 13-3 |
| NAT: F4 F5 F6 | STA: BS.4.3.a BS.4.3.b | | |
| 13. ANS: C | PTS: 1 | DIF: A | OBJ: 13-5 |
| NAT: F4 F5 F6 | STA: BS.4.3.a BS.4.3.b BS.4.3.c | | |
| 14. ANS: B | PTS: 1 | | |
| 15. ANS: A | PTS: 1 | | |
| 16. ANS: C | PTS: 1 | | |
| 17. ANS: C | PTS: 1 | | |
| 18. ANS: B | PTS: 1 | | |
| 19. ANS: F | PTS: 1 | | |
| 20. ANS: D | PTS: 1 | | |
| 21. ANS: C | PTS: 1 | | |
| 22. ANS: D | PTS: 1 | | |
| 23. ANS: D | PTS: 1 | | |
| 24. ANS: B | PTS: 1 | | |
| 25. ANS: D | PTS: 1 | | |
| 26. ANS: C | PTS: 1 | | |
| 27. ANS: B | PTS: 1 | | |
| 28. ANS: A | PTS: 1 | | |
| 29. ANS: D | PTS: 1 | | |
| 30. ANS: C | PTS: 1 | | |

31. ANS: D PTS: 1
32. ANS: A PTS: 1
33. ANS: B PTS: 1
34. ANS: B PTS: 1
35. ANS: C PTS: 1
36. ANS: A PTS: 1
37. ANS: D PTS: 1
38. ANS: D PTS: 1
39. ANS: C PTS: 1
40. ANS: B PTS: 1
41. ANS: D PTS: 1
42. ANS: D PTS: 1
43. ANS: A PTS: 1
44. ANS: B PTS: 1
45. ANS: A PTS: 1
46. ANS: A PTS: 1
47. ANS: C PTS: 1
48. ANS: B PTS: 1
49. ANS: C PTS: 1
50. ANS: B PTS: 1
51. ANS: A PTS: 1
52. ANS: B PTS: 1
53. ANS: D PTS: 1
54. ANS: B PTS: 1
55. ANS: C PTS: 1
56. ANS: B PTS: 1
57. ANS: B PTS: 1
58. ANS: C PTS: 1
59. ANS: A PTS: 1
60. ANS: B PTS: 1
61. ANS: E PTS: 1
62. ANS: C PTS: 1
63. ANS: C PTS: 1

MULTIPLE RESPONSE

64. ANS: A, C, E PTS: 1
65. ANS: C, F, H PTS: 1

MATCHING

66. ANS: C PTS: 1
67. ANS: A PTS: 1
68. ANS: B PTS: 1
69. ANS: D PTS: 1
70. ANS: E PTS: 1

71. ANS: F PTS: 1
72. ANS: G PTS: 1

73. ANS: B PTS: 1
74. ANS: C PTS: 1
75. ANS: A PTS: 1
76. ANS: B PTS: 1
77. ANS: C PTS: 1
78. ANS: A PTS: 1
79. ANS: B PTS: 1

80. ANS: A PTS: 1
81. ANS: B PTS: 1
82. ANS: C PTS: 1

83. ANS: B PTS: 1
84. ANS: A PTS: 1
85. ANS: C PTS: 1

86. ANS: A PTS: 1
87. ANS: J PTS: 1
88. ANS: L PTS: 1
89. ANS: R PTS: 1

90. ANS: B PTS: 1
91. ANS: A PTS: 1

92. ANS: D PTS: 1
93. ANS: C PTS: 1

94. ANS: A PTS: 1
95. ANS: C PTS: 1
96. ANS: B PTS: 1
97. ANS: A PTS: 1
98. ANS: C PTS: 1
99. ANS: B PTS: 1