Genetics Review

MULTIPLE CHOICE: Circle the answer that best completes the sentence.

1. The Austrian monk whose experiments with pea plants were the beginning of our understanding of genetics was _______.
   A. Albert Einstein
   B. Albus Dumbledore
   C. Alfred Nobel
   D. Gregor Mendel

2. The different alternatives or choices for a gene (like blue, green, or brown eyes) are called _______.
   A. generations
   B. traits
   C. tetrads
   D. alleles

3. Crossing organisms from the F₁ generation produces the _____ generation.
   A. P₁
   B. P₂
   C. P₁
   D. None of these—you can't cross F₁ organisms with each other!

4. Crossing organisms from the P₁ generation produces the _____ generation.
   E. P₂
   F. F₁
   G. F₂
   H. None of these—you can't cross P₁ organisms with each other!

5. Mendel's "factors" are now called _________________.
   A. gametes
   B. genes
   C. cells
   D. zygotes

6. Self-pollination produces seeds with genetic information from ______ parent plant(s).
   A. ONE
   B. TWO
   C. THREE
   d. FOUR

7. What pattern did Mendel see when crossing pure TALL with pure SHORT pea plants?
   A. ALL the F₁ offspring were short, but the F₂ generation were all tall.
   B. ALL the F₁ offspring were tall, but the F₂ generation were all short.
   C. ALL the F₁ offspring were short, but 50% the F₂ generation were all tall and 50% were short.
   D. ALL the F₁ offspring were tall, but 25% the F₂ generation were short and 75% were tall.
8. WHICH OF THE FOLLOWING IS TRUE of MENDELIAN INHERITANCE?
   A. If a dominant allele is present, the recessive allele won't be seen
   B. If a recessive allele is present, the dominant allele won't be seen.
   C. Both recessive and dominant alleles show if present
   D. All of the above

9. Mendel obtained plants that were pure for particular traits by
   a. growing plants from seeds of other plants that showed that trait
   b. allowing plants to self-pollinate for several generations
   c. discarding plants that showed other traits
   d. allowing plants to cross-pollinate for one generation

10. The appearance of an organism is its
    a. genotype  b. phenotype  c. genotype ratio  d. phenotype ratio

11. In a dihybrid cross between individual with the genotype RRYY and an individual with the genotype rryy, all of the offspring with have the genotype
    a. RRYY   b. RrYY   c. RrYy   d. rryy   e. RRyy

12. A segment of DNA that controls a particular hereditary trait is called a(n)
    a. genotype  b. heredity  c. allele  d. trait  e. gene

13. An alternate form of a gene is called a(n)
    a. genotype  b. heredity  c. allele  d. trait  e. gene

14. The genetic makeup of an organism is called its
    a. genotype  b. heredity  c. allele  d. trait  e. phenotype

15. The transmission of characteristics from parents to offspring is called
    a. homozygous dominant  b. allele  c. heredity  d. genotype  e. heterozygote

16. Having two similar, dominant alleles for a trait is called
    a. homozygous dominant  b. monohybrid cross  c. heterozygous  d. phenotype  e. genotype

17. An organism having two different alleles for a trait is called
    a. heterozygote  b. homozygous dominant  c. genotype  d. monohybrid cross  e. phenotype

18. A trait is any characteristic that can be passed
    a. from plants to animals  c. from one species to another
    b. from parent to offspring  d. through a cell membrane

19. A hybrid is an organism that receives different genetic information from
    a. each parent  b. different parts on its body  c. only one parent  d. changes in the environment
20. When pure-bred plants (homozygous) are allowed to self-pollinate, they produce
   a. only genotypes    c. only phenotypes
   b. only offspring with the parental trait  d. offspring with varying traits

21. Mendel hypothesized that each trait is controlled by a factor, now called a
   a. gene  b. mate  c. hybrid  d. dominance  e. None of the above.

22. What are different versions of a gene for the same trait?
   a. alleles  b. phenotypes  c. dihybrids  d. true-breeding

23. The law of segregation states that, during meiosis, each pair of alleles
   a. stick together  b. is tripled  c. separates  d. becomes pure-bred  e. None of the above.

24. An allele that expresses itself in a hybrid is a(n)
   a. recessive allele  b. independent assortment  c. allele pair  d. dominant allele

25. The actual genetic makeup of an organism is called its
   a. phenotype  b. homozygous type  c. heterozygous type  d. genotype

26. The law of independent assortment states what?
   a. Half of an organism's gametes have one allele per pair.
   b. One allele is always dominant.
   c. Gene pairs sort randomly and independently of each other during the formation of gametes
   d. Gene pairs sort in the same manner during the formation of gametes.

27. An organism in which two alleles for a trait are different is
   a. heterozygous  b. homozygous  c. genotypic  d. phenotypic

28. An individual heterozygous for a trait and an individual homozygous recessive for the trait are crossed and
   produce offspring that are
   a. all the same genotype  c. of two different phenotypes
   b. of three different phenotypes  d. all of the same phenotype.

29. A heterozygous individual would have the following genotype.
   a. yy  b. GG  c. Ww  d. Any of the above  e. None of the above.

30. A homozygous individual would have the following genotype.
   a. Pp  b. YY  c. Zz  d. None of the above.

31. To describe how traits can disappear and reappear in a certain pattern from
   generation to generation, Mendel proposed
   a. the law of independent assortment
   b. the law of segregation
   c. the law of genotypes
   d. the law of phenotypes
   e. that the F2 generation will only produce purple flowers

32. Segregation of alleles occurs during
   a. mitosis  b. meiosis  c. fertilization  d. pollination
33. Punnett squares are grids that show
   a. the phenotypes of offspring    c. actual results of a genetic cross
   b. all possible results of a genetic cross  d. only dihybrid crosses

34. In incomplete dominance, there are no
   a. genetic crossings  c. dominant or recessive alleles
   b. homozygous phenotypes  d. intermediate traits

35. The scientific study of heredity is called
   a. meiosis  b. crossing-over  c. genetics  d. pollination

36. The phenotype of an organism
   a. represents its genetic composition
   b. reflects all the traits that are actually expressed
   c. occurs only in dominant pure organisms

37. Tallness (T) is dominant to shortness (t) in pea plants. Which of the following represents a genotype of a pea plant that is heterozygous for tallness?
   a. T  b. TT  c. Tt  d. tt

38. A 3:1 ratio of tall to short pea plants appearing in the (F2) generation lends support to the principle of
   a. recessiveness  b. mutation  c. segregation  d. crossing-over

39. A cross of two individuals for a single trait is called
   a. monohybrid  b. dihybrid  c. dominant  d. codominant

40. The law of segregation states that
   a. alleles of a gene separate from each other during gamete formation
   b. different alleles of a gene can never be found in the same organism
   c. each gene of an organism ends up in a different gamete
   d. each gene is found on a different molecule of DNA

41. A trait that occurs in 450 individuals out of a total of 1,800 individuals occurs with a probability of
   a. 0.04  b. 0.25  c. 0.50  d. 0.75  e. 1.00

42. The difference between a monohybrid cross and dihybrid cross is that
   a. monohybrid crosses involve traits for which only one allele exists, while dihybrid traits involved two alleles.
   b. monohybrid crosses involved self-pollination, while dihybrid crosses involve cross-pollination.
   c. monohybrid crosses involve one gene; dihybrid crosses involve two genes.
   d. dihybrid crosses require two Punnett squares; monohybrid crosses need only one.

43. The first filial (F1) generation is the result of
   a. cross-pollination among parents and the next generation
   b. crosses between individuals of the parental generation
   c. crosses between the offspring of the parental cross
   d. self-fertilization between parental stock

44. Which of the following is the designation for Mendel's original pure strains of plants?
   a. P  b. F  c. F1  d. F2  e. P2
45. How many different phenotypes can be produced by a pair of codominant alleles?
   a. 1  b. 2  c. 3  d. 4  e. 5

46. The likelihood that a specific event will occur is called
   a. phenotype  b. probability  c. genotype  d. recessive  e. homozygous

47. When two different alleles occur together, the one that is expressed is called
   a. recessive  b. phenotypic  c. dominant  d. superior

48. An organism that has an inherited two of the same alleles of a gene from its parents is _____ for that trait.
   a. hereditary  b. a mutation  c. heterozygous  d. homozygous

49. The probability of a coin toss yielding heads is
   a. 0.25  b. 0.50  c. 1.00  d. 0.00

50. The law of independent assortment applies only to genes that are
   a. codominant  b. located on different chromosomes  c. located on the same chromosome  d. dominant

51. When a cross between a red flower and a white flower yields pink offspring, the trait is
   a. dominate  b. incompletely dominant  c. recessive  d. codominant

52. Black fur is dominant over brown fur in rabbits. White and gray fur exhibit incomplete dominance. How can you find out the genotype of a rabbit with black fur.
   a. Mate the black rabbit with a white rabbit.
   b. Mate the black rabbit with another black rabbit
   c. Mate the black rabbit with a gray rabbit
   d. Mate the black rabbit with a brown rabbit.

53. The "father" of genetics was
   a. T. A. Knight.  b. Hans Krebs.  c. Gregor Mendel.  d. None of the above

54. What is the probability that the offspring of a homozygous dominant individual and a homozygous recessive individual will exhibit the dominant phenotype?
   a. 0.25  b. 0.66  c. 0.5  d. 1.0

55. F2 : F1 ::
   a. P : F1   b. F1 : P   c. F1 : F2   d. dominant trait : recessive trait

56. The passing of traits from parents to offspring is called
   a. genetics  b. development  c. heredity  d. maturation

57. homozygous : heterozygous ::
   a. homozygous : Bb  b. probability : predicting chances  c. BB : Bb  d. homozygous : BB
58. The law of segregation explains that
a. alleles of a gene separate from each other during meiosis.
b. different alleles of a gene can never be found in the same organism.
c. each gene of an organism ends up in a different gamete.
d. each gene is found on a different molecule of DNA.

59. When Mendel crossed pea plants that differed in two characteristics, such as flower color and plant height,
a. these experiments led to his law of segregation.
b. he found that the inheritance of one trait did not influence the inheritance of the other trait.
c. he found that the inheritance of one trait influenced the inheritance of the other trait.
d. these experiments were considered failures because the importance of his work was not recognized.

60. The phenotype of an organism
a. represents its genetic composition.
b. reflects all the traits that are actually expressed.
c. occurs only in dominant pure organisms.
d. cannot be seen.

61. An individual heterozygous for a trait and an individual homozygous recessive for the trait are crossed and produce many offspring. These offspring are likely to be
a. all the same genotype.
b. of two different phenotypes.
c. of three different phenotypes.
d. all the same phenotype.

62. Tallness (T) is dominant over shortness (t) in pea plants. Which of the following represents the genotype of a pea plant that is heterozygous for tallness?
a. T  
b. Tt  
c. TT  
d. tt

In humans, having freckles (F) is dominant over not having freckles (f). The inheritance of these traits can be studied using a Punnett square similar to the one shown below.
63. Refer to the illustration above. The genotype represented in box 1 in the Punnett square would
a. be homozygous for freckles.
b. have an extra freckles chromosome.
c. be heterozygous for freckles.
d. have freckles chromosomes.

64. Refer to the illustration above. The genotype in box 3 of the Punnett square is
a. FF. b. ff. c. Ff. d. None of the above

65. Refer to the illustration above. The phenotype represented by box 1 is
a. green, inflated. b. green, constricted. c. yellow, inflated. d. yellow, constricted.

66. Refer to the illustration above. The genotype represented by box 2 is
a. GgII. b. GI. c. GGII. d. Gi.

67. 2,000 yellow seeds : 8,000 total seeds ::
a. 1 : 6 b. 1 : 3 c. 1 : 8 d. 1 : 4

In rabbits, black fur (B) is dominant over brown fur (b). Consider the following cross between two rabbits:

Bb x Bb

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>b</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>b</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

68. Refer to the illustration to the left. The device shown, which is used to
determine the probable outcome of genetic crosses, is called a

69. Refer to the illustration to the left. Both of the parents in the cross are
a. black. b. brown. c. homozygous dominant. d. homozygous recessive.

70. Refer to the illustration to the left. The phenotype of the offspring indicated by
box 3 would be
a. brown. b. black. c. a mixture of brown and black. d. The phenotype
cannot be determined.

71. Refer to the illustration above. The genotypic ratio of the F1 generation would be
72. What is the expected genotypic ratio resulting from a homozygous dominant \( \times \) heterozygous monohybrid cross?
   a. 1:0  
   b. 1:2:1  
   c. 1:1  
   d. 1:3:1

73. What fraction of the offspring resulting from a heterozygous \( \times \) heterozygous dihybrid cross are homozygous recessive for both traits?
   a. 9/16  
   b. 3/16  
   c. 1/4  
   d. 1/16

74. What is the expected genotypic ratio resulting from a heterozygous \( \times \) heterozygous monohybrid cross?
   a. 1:2:1  
   b. 1:2  
   c. 1:3:1  
   d. 1:0

75. What is the expected phenotypic ratio resulting from a homozygous dominant \( \times \) heterozygous monohybrid cross?
   a. 1:3:1  
   b. 2:1  
   c. 1:2:1  
   d. 1:0

76. Codominance: both traits are displayed:
   a. probability: crosses  
   b. heterozygous: alleles are the same  
   c. homozygous: alleles are the same  
   d. Punnett square: chromosomes combine

77. Spermatogenesis results in
   a. four haploid cells  
   b. four diploid cells  
   c. one haploid cell  
   d. one diploid cell

78. Separation of homologues occurs during
   a. mitosis.  
   b. meiosis I.  
   c. meiosis II.  
   d. fertilization.

79. When crossing-over takes place, chromosomes
   a. mutate in the first division.  
   b. produce new genes.  
   c. decrease in number.  
   d. exchange corresponding segments of DNA.

80. Meiosis I is often called "reduction division" because
   a. chromosomes gain electrons and hydrogen atoms  
   b. gametes are much smaller than the cells from which they are produced  
   c. the number of cells is reduced from four to two  
   d. diploid cells divide to become haploid cells

81. If an organism has 12 chromosomes in each body cell, how many chromosomes would you expect to find in the organism's gametes?
   a. 4  
   b. 6  
   c. 10  
   d. 12

82. During which phase of meiosis do tetrads form?
   a. prophase I  
   b. telophase I  
   c. metaphase II  
   d. anaphase II

83. A diploid cell is one that
   a. has two homologues of each chromosome.  
   b. is designated by the symbol 2n.  
   c. has chromosomes found in pairs.  
   d. All of the above
84. The diploid number of chromosomes in a human skin cell is 46. How many chromosomes are in a human egg cell?
   a. 46   b. 92   c. 23   d. 12.5

85. How many chromosomes are in the body cells of an organism that has a haploid number of 8?
   a. 4   b. 8   c. 12   d. 16

86. In oogenesis, a diploid reproductive cell divides meiotically to produce
   a. one diploid gamete   b. one haploid gamete   c. four diploid gametes   d. four haploid gametes

87. The exchange of genes between pairs of homologous chromosomes is called
   a. crossing over   b. meiosis I   c. homologous pairing   d. crossing back

88. What type of blood is known as the universal donor?
   a. A   b. B   c. AB   d. O

89. What type of blood is known as the universal acceptor?
   a. A   b. B   c. AB   d. O

90. If a person has type O blood, who can they accept blood from?
   a. A and O   b. Only A   c. Only O   d. AB and B

91. If a person has type B blood, who can they accept blood from?
   a. B and O   b. Only B   c. AB and B   d. Only O

92. If a person has type AB blood, who can they donate blood to?
   a. A and B   b. Only O   c. Only AB   d. A, B, AB, and O

93. If a person has type A blood, who can they donate blood to?
   a. A and O   b. Only A or AB   c. Only O   d. A, B, and AB

94. What blood type is the most prevalent in the U.S.?
   a. A   b. B   c. AB   d. O

95. What process is best represented by the diagram below?
   a. codominance   b. segregation   c. incomplete dominance   d. gene linkage
96. If a female has type AB blood and a male has type A blood, what type of blood can their children have?
   a. type A only
   b. type B only
   c. A, B, and AB
   d. None of the above.

97. Which diagram best represents spermatogenesis?

98. Molecules that are recognized by the immune system? antigens

MATCH THE WORD FROM THE WORD BANK WITH ITS DEFINITION:

<table>
<thead>
<tr>
<th>GENETICS</th>
<th>HEREDITY</th>
<th>TRAIT</th>
<th>PURE-BREEDING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>trait</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>fertilization</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dominant</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>recessive</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>allele</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>fertilization</td>
<td></td>
</tr>
</tbody>
</table>

99. trait: A characteristic that can be observed such as hair color, seed shape, flower color, etc

100. fertilization: The joining of a sperm and egg to make a zygote

101. Dominant: A gene choice that masks another choice for a trait

102. recessive: A gene choice that is masked by another choice for a trait

103. Genetics: The branch of biology that studies how characteristics are transmitted from parent to offspring
104. **Hereditity** the passing of characteristics from parent to offspring
105. **allele** An alternative choice for a gene (such as brown, green, or blue eyes)
106. **pure-breeding** An organism that always produces offspring identical to itself if self-pollinated

**PUNNETT SQUARE PRACTICE**

Use a Punnett Square to show the possible offspring from the crosses given and answer the questions:

<table>
<thead>
<tr>
<th>IN PEAS:</th>
<th>R = round</th>
<th>T = tall</th>
<th>Y = yellow peas</th>
<th>P = purple flowers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r = wrinkled</td>
<td>t = short</td>
<td>y = green peas</td>
<td>p = white flowers</td>
</tr>
</tbody>
</table>

**MAKING MONOHYBRID CROSSES:**

107. What is the genotype of a HOMOZYGOUS YELLOW SEED plant? __________
108. What is the genotype of a HOMOZYGOUS GREEN SEED plant? __________
109. What is the genotype of a HETEROZYGOUS YELLOW plant? __________

Make a cross between a PURE YELLOW SEED parent and a PURE GREEN SEED parent.

110. Genotypes of Parents: _______ X _______

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

112. POSSIBLE OFFSPRING GENOTYPES  
113. POSSIBLE OFFSPRING PHENOTYPES  
114. What is the probability an offspring will show the DOMINANT TRAIT (YELLOW SEEDS)? __________
115. What is the probability an offspring will show the RECESSIVE TRAIT (GREEN SEEDS)? __________

**MAKE SOME HETEROZYGOUS MONOHYBRID CROSSES**
116. A black coat (B) is DOMINANT in guinea pigs. A brown coat (b) is RECESSIVE.

117. What is the genotype of a HOMOZYGOUS BLACK guinea pig? = _BB_ 

118. What is the GENOTYPE of a HETEROZYGOUS BLACK guinea pig? = _Bb_ 

119. What is the GENOTYPE of a brown guinea pig? = _bb_

Make a cross between TWO HETEROZYGOUS BLACK guinea pigs.

120. Genotypes of Parents: _Bb_ X _Bb_ 

<table>
<thead>
<tr>
<th></th>
<th>Bb</th>
<th>Bb</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>BB</td>
<td>Bb</td>
</tr>
<tr>
<td>b</td>
<td>Bb</td>
<td>bb</td>
</tr>
</tbody>
</table>

121. POSSIBLE OFFSPRING GENOTYPES  

1 BB: 2 Bb: 1 bb 

122. POSSIBLE OFFSPRING PHENOTYPES  

Black + brown 

123. What is the probability that a baby will be black? _75%_

124. What is the probability that a baby will be brown? _25%_

125. What is the probability the baby will be a HYBRID? _50%_

126. What is the probability the baby will be HOMOZYGOUS DOMINANT? _25%_

127. What is the probability the baby will be HOMOZYGOUS RECESSIVE? _25%_

Scientists have been investigating the genetic make up of the residents in Bikini Bottom. Complete the following questions about these inhabitants.

81. IN SPONGEPEOPLE the allele for SQUARE SHAPE (S) is dominant to ROUND (s).

82. SpongeBob SquarePants recently met SpongeSuzie RoundPants at a dance. SpongeBob is HETEROZYGOUS for his square pants, but Suzie is ROUND.
Create a Punnett square to show the possibilities that could result if SpongeBob and SpongeSuzie had children.

128. Genotypes of Parents: \[ Ss \times ss \]

129. What is SpongBob's genotype? \[ Ss \]

130. What is SpongeSuzie's genotype? \[ ss \]

131. What are the chances a child will have a square shape? \[ 2 \] out of 4 OR \[ 50\% \]

132. What are the chances a child will have a round shape? \[ 2 \] out of 4 OR \[ 50\% \]

* * * * * * * * * * * * * * *

Rhett and Scarlett are expecting a baby. Rhett's rich uncle has promised them $1 million if their baby is a blue eyed boy that can carry on the family name. Brown eyes (B) are dominant over blue eyes (b). Rhett has brown eyes, while Scarlett has blue eyes. If Xy is present with a particular eye color, the baby will be a boy. If XX is present with a particular eye color, the baby will be a girl. Fill in the Punnett square with Rhett and Scarlett's possible gametes.

<table>
<thead>
<tr>
<th></th>
<th>Bx</th>
<th>By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ss</td>
<td>Bx</td>
<td></td>
</tr>
<tr>
<td>ss</td>
<td>By</td>
<td>Ss</td>
</tr>
<tr>
<td>Ss</td>
<td></td>
<td>ss</td>
</tr>
</tbody>
</table>

133. Possible gametes: \[ Bx \quad By \quad bX \quad by \quad bx \]

134. What genotype does a baby need to be a blue eyed boy and get the $1 million? \[ bbXy \]

Use a Punnett square to show the possible genotypes for their baby.
135. What is the probability they will have a BLUE-EYED BOY and get the $1 million?

\[
\frac{1}{4} = 25\%
\]

136. Why does this cross not follow the 9:3:3:1 pattern for DIHYBRID (2 gene) crosses?

because **both** parents weren't heterozygous for the traits

**MEIOSIS**

MULTIPLE CHOICE: Circle the letter of the answer that best completes the statement.

137. _____________ is a kind of cell division that produces haploid cells with \( \frac{1}{2} \) the number of chromosomes of the parent cell.

A. mitosis
B. meiosis
C. cytokinesis
D. none of the above

138. Cells undergo meiosis to ________________.

A. grow bigger
B. repair injuries
C. replace worn out cells
D. make gametes
139. The pairing up of homologous chromosomes during meiosis is called ________________.
   A. crossing over
   b. independent assortment
   c. binary fission

140. The group of 4 chromatids that forms during crossing over is called a ________________.
   A. biad
   B. triad
   C. tetrad
   D. quadrad

141. The exchange of genetic material between arms of homologous chromosomes is called
   A. synapsis
   B. independent assortment
   C. asexual reproduction
   D. crossing over

142. The pairing up of homologous chromosomes during meiosis happens in ________________.
   A. prophase I
   B. metaphase I
   C. prophase II
   D. interphase II

143. During meiosis, crossing over happens in ________________.
   A. prophase I
   B. metaphase I
   C. prophase II
   D. interphase II

144. In MEIOSIS a 2n parent cell divides to produce ________________.
   A. four identical 2n cells
   B. two identical 2n cells
   C. two identical 1n cells
   D. four different 1n cells

145. During oogenesis, the cytoplasm is divided UNEVENLY so that only one mature egg is produced along with three?
   A. polar bodies
   B. diploid cells
   C. zygotes
   D. spermatids

146. The production of mature sperm cells is called ________________.
   A. oogenesis
   B. spermo-synthesis
   C. spermosis
   D. spermatogenesis
TRUE or FALSE

Circle T if the statement is TRUE.
Circle F if the statement is FALSE.

If it is FALSE, MAKE CORRECTIONS to the underlined word(s) to make the statement true.

147. T F Offspring from asexual reproduction are genetically identical to the parent.

148. T F Polar bodies go on to become eggs.

149. T F The 2nd division in meiosis is a mitosis division without copying the DNA 1st.

150. T F In humans, meiosis occurs in the testes and ovaries.

151. T F Gametes produced in meiosis are identical to each other, but different from the parent cell.

153. T F Sexual reproduction frequently results in much variety among offspring.

154. T F Fertilization occurs when the egg and sperm nuclei fuse and join.

155. T F The egg of the female is much smaller than the sperm.

156. T F The egg is able to move under its own power by its flagellum in the human.

157. T F The male reproductive organs are called the testes and the female reproductive are called the ovaries.

158. T F Gonads are organs which produce sex cells.

159. T F The human egg or sperm contains 23 chromosomes.

160. T F Crossing over involves an exchange of chromatid segments between chromosomes.

161. T F The first division of meiosis is when crossing over occurs.

162. T F Spermatogenesis occurs in the prostate gland.

163. T F While meiosis results in a halving of the chromosome number, the chromosome number is maintained in an organism by the processes of meiosis and fertilization.

164. T F Spermatogenesis results in the formation of one sperm from one meiotic cell division.

165. T F Oogenesis is the production of the egg.

166. T F Oogenesis results in the formation of one egg and three polar bodies from one meiotic division.

167. T F Sexual reproduction is considered to have evolutionary advantages over asexual reproduction as it provides a great number of variations in the offspring.