

1. Choose all that apply.

*Which of the following contribute to genetic variation in sexually reproducing organisms?*

☐ budding

☐ independent assortment

☐ crossing over

☐ mitosis

☐ random fertilization

☐ diploid cell

2. Pea plants have seven chromosome pairs.

How many chromosome combinations are possible in pea plants gametes?

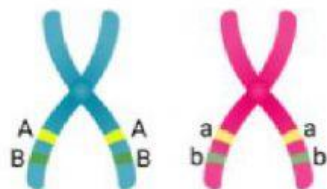
☐ 49

☐ 128

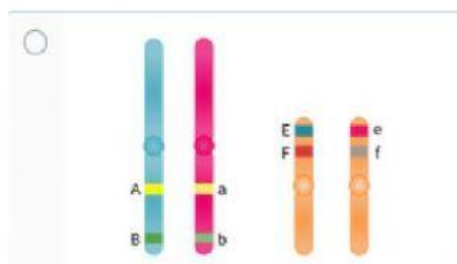
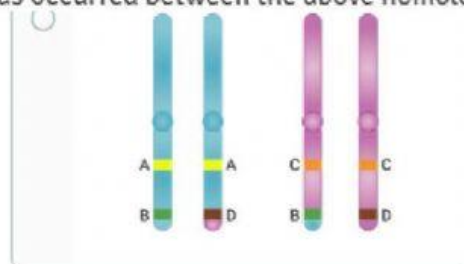
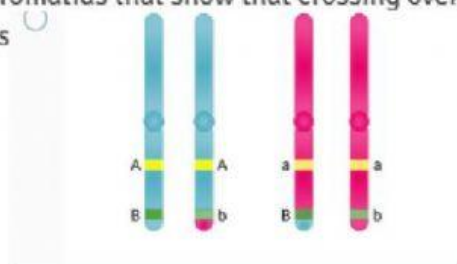
☐ 11

☐ 14

3. The image below shows a pair of homologous chromosomes for two genes.



Select the chromatids that show that crossing over has occurred between the above homologous chromosomes



4. A common housefly has 12 chromosomes. Find the number of chromosome combinations that can be produced in the offspring of fruit fly.

$n =$

The number of chromosome combinations is  $2^n =$

The number of possible combinations after fertilization =

144

6

64

12

16,760,832

4,096