

1. Choose all that apply.

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

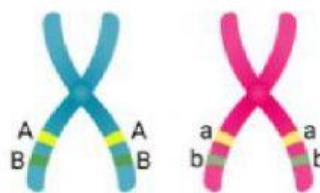
 budding independent assortment crossing over mitosis random fertilization diploid cell

2. Pea plants have seven chromosome pairs.

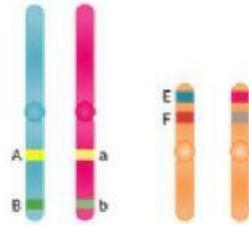
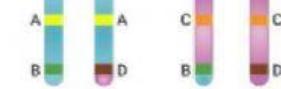
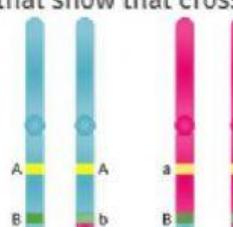
How many chromosome combinations are possible in pea plants gametes?

 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.

$$n = \boxed{\quad}$$

The number of chromosome combinations is $2^n = \boxed{\quad}$

The number of possible combinations after fertilization =

$$\boxed{\quad}$$

$$\boxed{144}$$

$$\boxed{6}$$

$$\boxed{64}$$

$$\boxed{12}$$

$$\boxed{16,760,832}$$

$$\boxed{4,096}$$