CONCEPT: CHROMOSOMAL REARRANGEMENTS: DUPLICATION

● **Duplications** are a type of chromosomal rearrangement where the chromosomal segment is doubled

□ There are many _____ of duplications

- **Tandem duplication**s occur when the duplicate regions are located adjacent to each other

- **Insertional duplication** occurs when the duplications regions are located elsewhere in the genomes

- **Segmental Duplications** are 10-50 kilobases in length and encompass very large sections

EXAMPLE:

Tandem Duplciation

Insertional Duplication

□ Duplications have been extremely important in evolution

- rDNA duplications allows for ribosome formation

- Causes three copies of alleles

PRACTICE:

1. A person has a WT chromosome with the following segments. A B C • D E F G H. Which of the following shows how the chromosome would look after an insertional duplication?
    a. A A B B C • D E F G H
    b. A B C • D E F G H A B
    c. A B A B C • D E F G H
    d. A C • D E F G H

2. A person has a WT chromosome with the following segments. A B C • D E F G H. Which of the following shows how the chromosome would look after an tandem duplication?
    a. A B B C • D E F G H
    b. A B C • D E F G H B
    c. A B A C • D E F G H
    d. A C • D E F G H