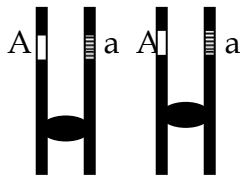


# Bio 111 Answer to iClicker Question 4A

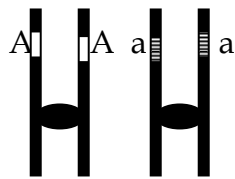
Consider an individual with genotype Aa. Which of the following diagrams shows the chromosomes of this individual after they have duplicated?

● = centromere



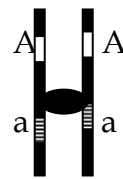
(A)

Incorrect:  
Centromeres should link *identical* chromosomes



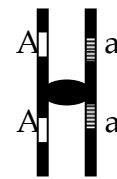
(B)

Correct:  
- correct pairs  
- 2 copies of each chromo.



(C)

Incorrect:  
- should be only one copy of each gene on each chromo



(D)

Incorrect:  
- same as (C)

(E) I don't know.

# Bio 111 Answer to iClicker Question 4B

For a female to have hemophilia, she must be  $X^hX^h$ . Thus, she must get an  $X^h$  from each of her parents. Therefore, she got an  $X^h$  from her father, so he would have to be  $X^hY$  (since he gave her an  $X^h$  and he is a male) - this would make him a hemophiliac, so it is not possible. Alternatively, a normal father can only be  $X^H$ , so his daughter would have to be  $X^HX^-$ , so no matter what allele the mom gave, the daughter would be normal. Either way, the only correct answer is NO (B).