NAME _____ DATE _____

Common Ancestry Assessment

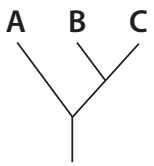
1. Species A, B, and C all make actin, a protein that helps muscles contract. The amino acid sequences of actin protein are 90% identical between A and B, but only 70% identical between A and C.

a. Based on the evidence above, choose the statement that is most likely to be correct:

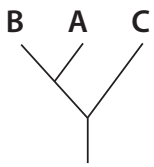
- [ ] A shares a more recent common ancestor with C than with B
- [x] A shares a more recent common ancestor with B than with C

b. Choose the tree diagram that shows the correct relationship:

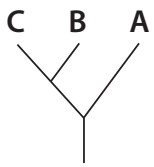
- [ ] Tree 1



- [x] Tree 2



- [ ] Tree 3



2. Ms. Biology teacher tells the class that broccoli and bananas descended from a common ancestor. One student says, "No way! Broccoli and bananas are totally different."

What evidence can Ms. Biology teacher use to support her claim? (Choose all that apply.)

- [ ] When ripe, bananas are yellow and broccoli is green.
- [x] Banana and broccoli plants both have chloroplasts and cell walls.
- [x] Bananas and broccoli both have genes that code for the protein *cellulose synthase*.
- [ ] Bananas and broccoli are both food.
- [x] Banana and broccoli plants both develop from embryos that grow from seeds.
- [x] Banana and broccoli plants share anatomy, including leaves, stems, roots, and flowers.
- [ ] Banana and broccoli plants are both represented in the fossil record.