

Analyzing and interpreting the data from Chromosome #15:

1. Given the data so far, which of the three babies can you already conclusively connect to a set of parents?

2. How did you conclude this?

3. Why can you not determine the parents of all of the babies at this point?

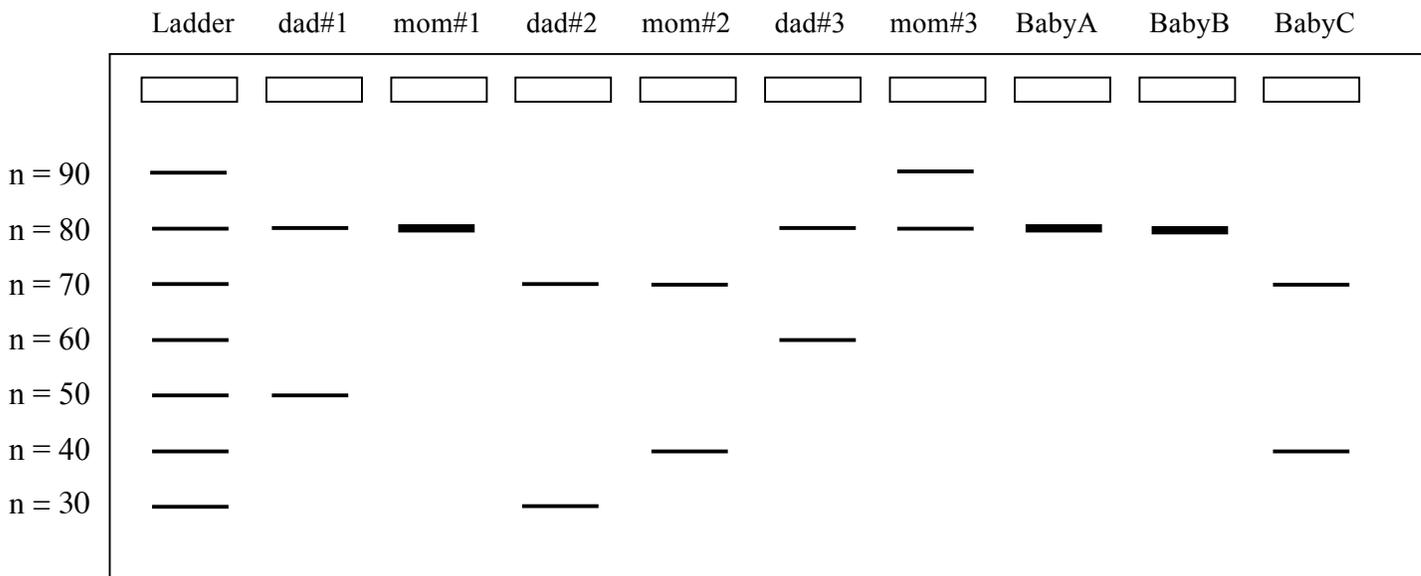
4. How do you think you would go about conclusively determining the parents of the remaining babies using DNA fingerprinting analysis?

You decide to test another site in the human genome, this time it is a site on chromosome #4. Different humans may differ by the value of “*n*” (the number of CAG repeats).

5' ...ACTGTAAACGCTAGCTGGTTCACTG... (CAG)_{*n*}...CCTATAGCTAGCTTTACGGA...-3'
 3' ...TGACATTTGCGATCGACCAAGTGAC... (GTC)_{*n*}...GGATATCGATCGAAATGCCT...-5'

You isolate that section of the DNA from chromosome #4 from each person you are examining, load the DNA samples into a gel, and run the gel.

You obtain the following results:



Analyzing and interpreting the data from Chromosome #4:

5. Given all the data in this problem, match the three sets of parents to the three babies.

6. Explain how this site on chromosome #4 allowed you to match parents #1 and parents #2 to the correct baby (B or C).