

- The six children listed below are from two families of three siblings each. Each child has blue or brown eyes and black or blond hair. Children from the same family have at least one of these characteristics in common. Which two children are Jim's siblings?

Child	Eye Color	Hair Color
Benjamin	Blue	Black
Jim	Brown	Blond
Nadeen	Brown	Black
Austin	Blue	Blond
Tevyn	Blue	Black
Sue	Blue	Blond

- (A) Nadeen and Austin (B) Benjamin and Sue (C) Benjamin and Austin
- (D) Nadeen and Tevyn (E) Austin and Sue

2003 AMC 8, Problem #17— “What do Jim’s characteristics say about who can be his sibling?”

- **Solution**

(E) Because Jim has brown eyes and blond hair, none of his siblings can have both blue eyes and black hair. Therefore, neither Benjamin nor Tevyn can be Jim’s sibling. Consequently, there are only three possible pairs for Jim’s siblings – Nadeen and Austin, Nadeen and Sue, or Austin and Sue. Since Nadeen has different hair color and eye color from both Austin and Sue, neither can be Nadeen’s sibling. So Austin and Sue are Jim’s siblings. Benjamin, Nadeen and Tevyn are siblings in the other family.

Difficulty: Medium

NCTM Standard: Data Analysis and Probability Standard: Develop and evaluate inferences and predictions that are based on data

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