

Cal Poly Department of Mathematics

Puzzle of the Week

Feb 6 - 12, 2009

The other day I was at a math conference and overheard a conversation between two mathematicians who had together studied abroad on the Budapest Semesters in Mathematics Program back when they were in college, but had not seen each other since:

Aaron: How are you!? It's been a while. What's new?

Bart: I am doing well. I got married and have three kids!

Aaron: Really! How old are they?

Bart: Well, the product of their ages is 36.

Aaron: That doesn't give me enough information.

Bart: Interestingly the sum of their ages is the same as the address we had in Budapest.

Aaron: I'm sorry but I still don't know their ages.

Bart: My oldest has red hair.

Aaron: Ahhh, now I have it.

How old are Bart's children?

Solutions should be submitted to Morgan Sherman:

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before next Friday. Those with correct and complete solutions will have their names listed in next week's email announcement. Anybody is welcome to make a submission.

Solution: The children are ages 9, 2, and 2. There are several possibilities for three positive integers whose product is 36. However all of these have *distinct sums*, save for 2,2,9 and 1,6,6. Since Aaron can not identify it with Bart's address clue the correct ages must be one of these two. Bart's last statement, that his oldest has red hair, is meant to indicate there is a unique oldest child, which eliminates 1,6,6 as a possibility (the most pedantic of you have pointed out that there is always a unique oldest child, even for twins – so some interpretation is needed here).