

Solutions

7. Three Men

The statement “the bachelor and Lon have the same colored eyes” tells us that Lon must be married and has brown eyes. Don is also married, so Ron must be the bachelor, and therefore must have brown eyes. So Don must have blue eyes, and Don has hair.

9. Brothers and Sisters

There are 13 children in the family (4 girls and 9 boys).

10. Stick Puzzle

Three possible solutions:



19. Missing-Digit Multiplication

$$\begin{array}{r} \text{a) } \quad 538 \\ \quad \times 74 \\ \hline \quad 2152 \\ + 37660 \\ \hline 39812 \end{array}$$

14. Coin Puzzles

- a) 12 nickels, 8 dimes, 10 quarters.
- b) 15 nickels, 4 dimes, 11 quarters.

16. Equal Products

Each of the three strings of numbers must be equal, so their prime factorizations must be equal. Therefore, we know that we can't use the digits 0, 5 or 7 because a given digit can only appear in two of the three products. Now let's consider the factor 3. The digit 9 contains two 3's (in its prime factorization) and the digits 3 and 6 each contain one 3. Therefore we will place the 9 at an intersect point, and the 3 and 6 on corners away from the 9. Now let's consider the factor 2.

The digit 8 contains three 2's, the digit 4 contains two 2's, and the digits 2 and 6 each contain one 2. We simply think of this as we fill in the remaining places of the puzzle. The final answer is shown here.

$$\begin{array}{r} 8 \quad 3 \\ 9 \quad 2 \quad 4 \\ 1 \quad 6 \end{array}$$

20. A's and X's

It is helpful to reframe the question, and instead ask ourselves, “What circles can't be an X?” We can then see that only the bottom-left circle can't be assigned an X, for that would lead to needing one row with three X's or three A's.

21. Ages of Teenagers

There are five teenagers in the group. There are an 18-year-old, a 14-year-old, a 13-year-old, and two 15-year-olds.

12. Connect the Dots Rectangle

I probably shouldn't give this one away. The solution is in my puzzle book!