

Puzzle

Since Aenorm has more and more international readers and we don't want to rob those readers from an intellectual challenge, the puzzle will be in English from this edition on. The structure of the puzzle has not changed, first we will give the solutions of the previous puzzles and then we will give the two new puzzles.

The potato race

To gather all potatoes, each person has to travel 101,000 meters to gather all potatoes. The best potato for Harry to select is the 99th potato in advance. When the race begins, Tom will take the first potato, since he is 2,04 percent faster. Harry will take the second, etc. Tom is not fast enough to capture two adjacent potatoes. Harry will have to walk 49.000 meter to get his 49 potatoes, 48020 for the potatoes and the walk back of 980 meter, while Tom has to walk 50020 meter for his 50 potatoes. Since $1,0204 \cdot 49.000 < 50020$, Harry wins the race.

Thee in Shanghai

A cube of 17,299 inches on the side and a cube of 25,469 inches on the side have a combined volume (21.697,79 cubic inches) exactly equal to the combined volume of 22 cubes each 9,954 inches on the side. Therefore, the green and black teas must have been mixed in the proportion of 17.2993 to 25.4693.

There was only one correct submission for the puzzles above. Therefore, the winner of the book token is S. Hoving, who even used a VBA-program to check his answers and gave additional solutions! Congratulations!

The new puzzles for this edition are:

The parade

In the time of Sam Lloyd, the St. Patrick's Day parade was a very popular event. During one of these parades, he developed an interesting and curious puzzle. One of the men that marched in these parades was Casey, an old man with a terrible limp. Sadly enough, Casey died, and there was a vacancy in the ranks. They couldn't fill the vacancy of Casey and decided to march on with one man short. As usual, the men arranged themselves in lines of ten and started marching. However, curious spectators started to shout where the man with the limp was and everybody missed Casey. Therefore they

rearranged in lines of nine men, since eleven wouldn't do. But again Casey was missed and the last line consisted of just eight men. They rearranged in groups of 8,7,5,4,3 and even 2 men in every line, but each time there was an empty spot in the last line, Casey's ghost was marching on.

Now the question of this puzzle is, how many men marched in the procession? You can assume that the number doesn't exceed 7000.

Primitive railroading

This is a puzzle especially for students in Operations Research, who should find this puzzle a piece of cake. We have an engine and four cars meeting an engine with three cars, as shown in the picture below. The problem is to find the fastest way of passing the two trains by means of a side-track, which is only large enough to hold one engine or one car at a time.

No ropes, poles or flying switches are to be used and it is understood that a car cannot be connected to the front of an engine. How many times is it necessary to back or reverse the directions of the engines to accomplish the trip? Each reversal of an engine is counted as a move in the solution and the solution with the least moves wins the price.



Solutions

Solutions to the two puzzles above can be submitted up to September 1st. You can hand them in in the VSAE room, room C6.06, mail them to info@vsae.nl or send them to VSAE, for the attention of Aenorm puzzle 56, Roetersstraat 11, 1018 WB Amsterdam, Holland. Among the correct submissions, one book token will be won. Solutions can be both in English as in Dutch.