

PER PEDES

At the start of a twenty-kilometer-long walking race there were 35 competitors. During the competition, the judges gave 82 warnings for irregular walking. Any walker is eliminated at his third warning. The walkers who haven't been eliminated have all finished the race.

What is the maximum number of walkers at the end of the competition? What is the minimum number? Justify.



PLATZWECHSEL

In a classroom there are 5 rows of 5 individual tables. The teacher asks his 25 pupils to change seats obeying the following order: each pupil will either take the seat in front or behind the seat he occupies or take the one on his right or left. Peter knows that his teacher often plays jokes. He imagines that the tables have two colours alternately, just like the squares of a checkerboard. "What you ask us to do is impossible, he then exclaimed, and I can prove it!"

Write Peter's thought process, which proves that such a movement is impossible.

TOR !!!

Alan, Ben, Charles, Dennis and Eliot's football training session is over. Mr Small, who comes to get the children after their training, is being given the report by his son. "I scored three goals less than Alan did; Charles three more than Dennis; Alan five less than Charles and Ben three more than I did."

Grade the children according to the number of goals they have scored. Justify.



HALB LEER ODER HALB VOLL ?

Filled up to the cork, a bottle has a capacity of one liter. A 'little devil' (or a 'bad boy') came across. He drank some of the liquid before recorking the bottle carefully. His mum would like to know whether there is more or less than half a liter of liquid in the bottle, without any calculation and without opening it. How can she do?

Describe the method and justify.

WER SPÜLT ?

9 adults and 16 teenagers are spending holidays in a holiday centre. During their stay, 68% of these people have to do the washingup. The teenagers understand that at least half of them have to do the washing-up. But they think that at least 2 adults are going to help them.

Are the teenagers right? Justify.

