



MathLovers

Problems – 09/18/2025

The solutions to the problems below
will be published on Sunday 09/21/2025

Problem 1. Kaja, every evening while falling asleep, counts in her head the sheep jumping over the fence. Kaja knows that the number of sheep she counted up to last evening before falling asleep was even. She also knows that she certainly would not have counted up to two hundred sheep and that she certainly counted to more than one hundred. If the number of sheep Kaja counted is a perfect square of a natural number and is not divisible by 3, then to how many sheep did Kaja count last evening?

Problem 2. The probability that it will rain today is 20%.
The probability that it will rain tomorrow is 70%.
The probability that neither today nor tomorrow it will rain is 10%.
(a) Calculate the probability that it will rain both today and tomorrow.
(b) You know that it will not rain today. What is the probability that it will rain tomorrow?

⚠ Note! These events are *not* independent.

Good Luck!

We encourage you to submit your solutions via the website:

<https://mathlovers.eu/submit-solution/>!