

List of defeated (by me) problems from Arnold's list of problems for children (mathematicians) from 5 to 15 ([link](#))

No 1-7

- ☒ Book cost
- ☒ Cork cost
- ☒ One and a half brick
- ☒ Wine and tea
- ☒ Two old ladies
- ☒ Right-angled triangle
- ☒ Vasya's family

No 8-14

- ☒ Victoria Regia flower
- ☒ Wolf, a goat and a cabbage
- ☒ Climbing snail
- ☒ Polar Bear
- ☐ Tide
- ☒ Two volumes of Pushkin
- ☐ Two body views

No 15-21

- ☐ Breaking 64
- ☒ Domino's bridge
- ☒ Fly between cyclists
- ☒ Domino on a chessboard
- ☐ Caterpillar on the corner
- ☒ Two vessels
- ☒ Heads and legs

No 22-28

- ☐ Equilateral triangles
- ☐ Cube sections
- ☐ Line through the centre of a cube
- ☐ Plane between two balls in cone
- ☐ Projection of France
- ☒  $p \mid 2^{p-1} - 1$  for  $p$  prime
- ☐ Needle thrown

No 29-35

- ☐ Platonic solids
- ☐ Dodecahedron and five cubes
- ☐ Cube interior
- ☐ Symmetries of Platonic solids
- ☐ Colouring a cube
- ☒ Permutations
- ☐ Cube diagonals

No 36-42

- ☐ Divisible of cubes
- ☐ Divisible of 5 and 7 powers
- ☐ Calculate sum with small error
- ☐ Cutting and splicing polygons
- ☐ Parallelogram on squared paper
- ☐ More on parallelogram on squared paper
- ☐ Parallelepipeds in cubed space

No 43-49

- ☐ The rabbit numbers
- ☐ Catalan numbers
- ☐ A cup tournament
- ☐ Trees
- ☐ Snake permutations
- ☐ Snakes and tangent
- ☐ Co-tangent

No 50-56

- ☐ Euler identity
- ☐ Sum of inverse squares
- ☐ Random vectors and circle
- ☐ Ratio of rabbits
- ☐ Infinite continued fraction
- ☐ Hidden polynomials
- ☐ Roots of unity

No 57-63

- ☐ Draw a curve
- ☐ Sine power integral
- ☐ Power integral
- ☐ Triangle on sphere
- ☐ Rolling circle
- ☐ Two pupils with the same birthdays
- ☐ Mirages

No 64-70

- ☐ Minimal perimeter
- ☐ Mean potential
- ☐ Approximation of  $\log 2$
- ☐ More approximations of logs
- ☐ Approximation of  $\log 7$
- ☐ Even more approximations of logs
- ☐ Natural logarithm approximation

No 71-77

- ☐ Powers of two
- ☐ Powers of three
- ☐ The recurrence theorem
- ☐ Dense sequence in torus
- ☐ Periodicity on torus
- ☐ More on torus dense sequences
- ☐ Even more on torus dense sequences