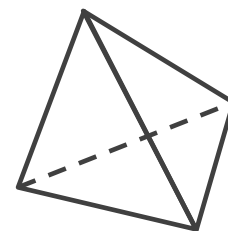


Junior Circle 3, Problem Set 21



1. A **tetrahedron** is a pyramid with a triangular base and triangular faces. Does a tetrahedron have a triangular cross section? Does a tetrahedron have a quadrilateral cross section?

2. Robby can eat 2 ice-cream cakes in 30 minutes. Bobby can eat 4 such cakes in 40 minutes. Robby and Bobby start eating an ice-cream cake together. How long will it take for them to finish it?



3. Alice, Benny, and Lily are residents of the Knights and Liars Island. (Remember, Knights *always* tell the truth, and Liars *always* lie). Alice says that all of them are liars. Benny agrees. Lily mentions that there are knights among them. Who is a liar, and who is a knight?

4. The picture shows how 12 pentominoes were used to enclose the grey area of 59 square units. Notice, that the pentominoes placed so that they touch along the sides (not just at corners).

Can you do better than 59? Can you do more than 80? 90? 100?

Using grid paper, try placing the pentominoes to enclose bigger area.

12 Pentominoes

