

Grades 5-8 (S), 9-12 (S)

Duration: 10 minutes

Tools: one Logifaces Set / 3-4 students

Pair / Group work

Keywords: Parallel, Perpendicular, Intersecting lines and planes

512 - Mutual Position of Lines and Planes



MATHS / 3D GEOMETRY



LOGIFACES
METHODOLOGY
Erasmus+

TEACHER
Logifaces

2019-1-HU01-KA201-0612722019-1

DESCRIPTION

Each student takes a block from the set. They practise the mutual position of lines in the Level 1 exercise and the mutual position of planes in the Level 2 exercise.

LEVEL 1 Students aim to find the following:

- parallel edges
- perpendicular edges
- intersecting edges
- skew edges

LEVEL 2 Students aim to find the following:

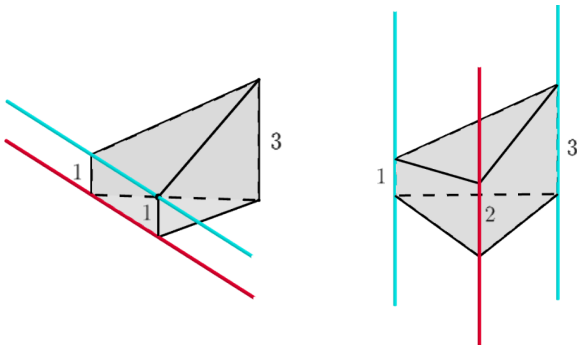
- parallel planes
- perpendicular planes
- intersecting planes

SOLUTIONS / EXAMPLES

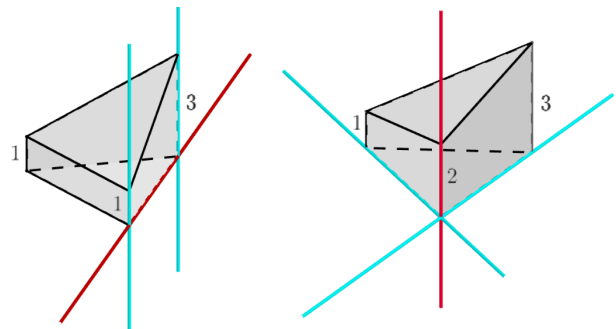
LEVEL 1 The figures below show some examples for each type. The corresponding edges (marked in light blue) were always drawn relative to a selected edge (marked in red).

Note that there are no parallel or perpendicular lines to those edges of the top triangle that are not 4 units long.

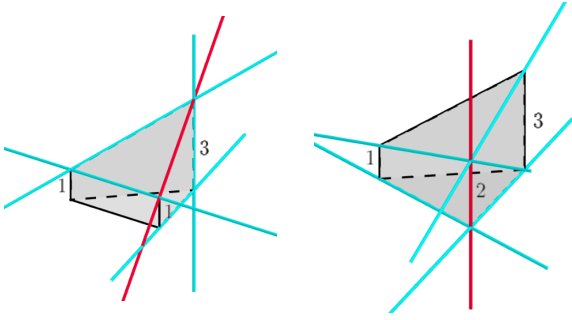
Parallel lines



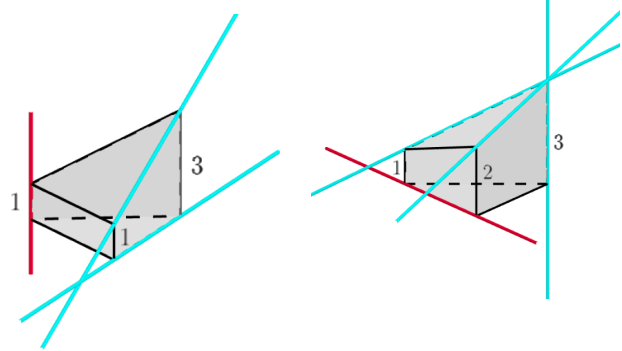
Perpendicular lines



Intersecting lines

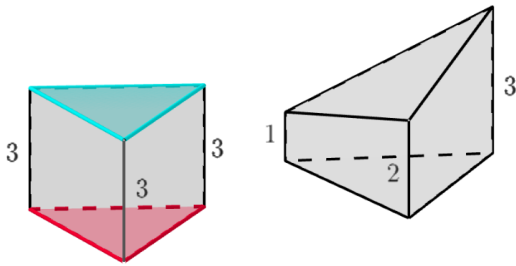


Scew lines

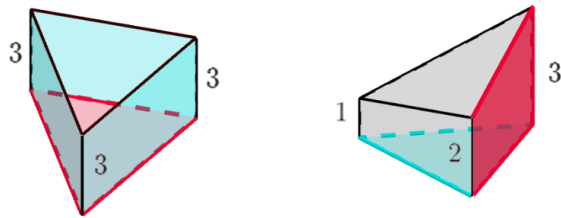


LEVEL 2 The figures below show some examples for each type. The corresponding faces (marked in light blue and blue) were always drawn relative to a selected face (marked in red). If the block is not a prism, it has no parallel faces.

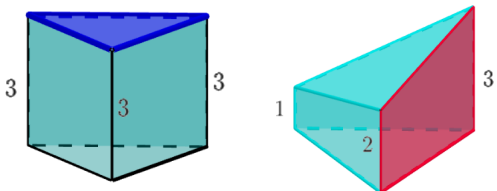
Parallel planes



Perpendicular planes



Intersecting planes



PRIOR KNOWLEDGE

Parallel, Perpendicular, Intersecting lines and planes

RECOMMENDATIONS / COMMENTS

We recommend this task as an introduction, during which students practise the basic concepts of 3-dimensional geometry they have learned.