	532 - Rotating Blocks in GeoGebra	LOGIFACES METHODOLOGY
Name: Date: Tools: one Logifaces Set / group	 MATHS / TRANSFORMATIONS	Erasmus+ **STUDENT** Logifaces 2019-1-HU01-KA201-0612722019-1

DESCRIPTION

Students' task is to start with a Logifaces block of truncated prism shape drawn in GeoGebra and move it by transformations to another given target position. See exercises 526 - Calculate the Coordinates for the particular coordinates and 527 - Coordinates in GeoGebra for the drawings in GeoGebra.

This table shows the coordinates of the top vertices when the base vertices have the coordinates $(0,\ 0,\ 0)$, $(4,\ 0,\ 0)$, $(2,\ 2\sqrt{3},\ 0)$ in each case.

Block			
112	$(0,0,1),\ (4,0,1),\ (2,2\sqrt{3},2)$	$(0,0,1),\ (4,0,2),(2,2\sqrt{3},1)$	$(0,0,2),\ (4,0,1),(2,2\sqrt{3},1)$
122	$(0,0,1),(4,0,2),\ (2,2\sqrt{3},2)$	$(0,0,2),\ (4,0,2),(2,2\sqrt{3},1)$	$(0,0,2),\ (4,0,1),(2,2\sqrt{3},2)$
223	$(0,0,2),\ (4,0,2),(2,2\sqrt{3},3)$	$(0,0,2),\ (4,0,3),(2,2\sqrt{3},2)$	$(0,0,3),\ (4,0,2),(2,2\sqrt{3},2)$
233	$(0,0,2),\ (4,0,3),(2,2\sqrt{3},3)$	$(0,0,3),\ (4,0,3),(2,2\sqrt{3},2)$	$(0,0,3),\ (4,0,2),(2,2\sqrt{3},3)$
113	$(0,0,1),\ (4,0,1),(2,2\sqrt{3},3)$	$(0,0,1),\ (4,0,3),(2,2\sqrt{3},1)$	$(0,0,3),\ (4,0,1),(2,2\sqrt{3},1)$
133	$(0,0,1),\ (4,0,3),(2,2\sqrt{3},3)$	$(0,0,3),\ (4,0,3),(2,2\sqrt{3},1)$	$(0,0,3),\ (4,0,1),(2,2\sqrt{3},3)$
123	$(0,0,1),\ (4,0,2),(2,2\sqrt{3},3)$	$(0,0,2),\ (4,0,3),(2,2\sqrt{3},1)$	$(0,0,3),\ (4,0,1),(2,2\sqrt{3},2)$
132	$(0,0,1),\ (4,0,3),(2,2\sqrt{3},2)$	$(0,0,3),\ (4,0,2),(2,2\sqrt{3},1)$	$(0,0,2),\ (4,0,1),(2,2\sqrt{3},3)$

LEVEL 1   Start: any given coordinates in 526 - Calculate the Coordinates (see the table above), target position: any other given coordinates of the same block.

LEVEL 2   Start: any given coordinates of block 123 (or 132) in 526 - Calculate the Coordinates (see the table above), target position: any other given coordinates of the block 132 (or 123).

HINT It is enough to find transformations in the plane that transform an equilateral triangle with labelled vertices into a congruent triangle at the same position, but with permuted labels at the vertices. Then the 3 dimensional equivalents of the transformations give the solution.

SOLUTION(S)