3D Cubes

Topic: Trigonometry
This problem challenges students to think about a 3-Dimensional Trigonometric problem.

Year Group: 3rd Year
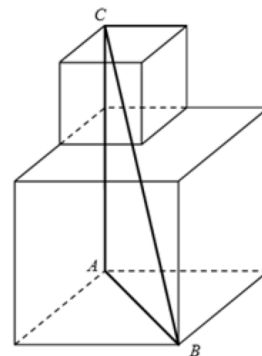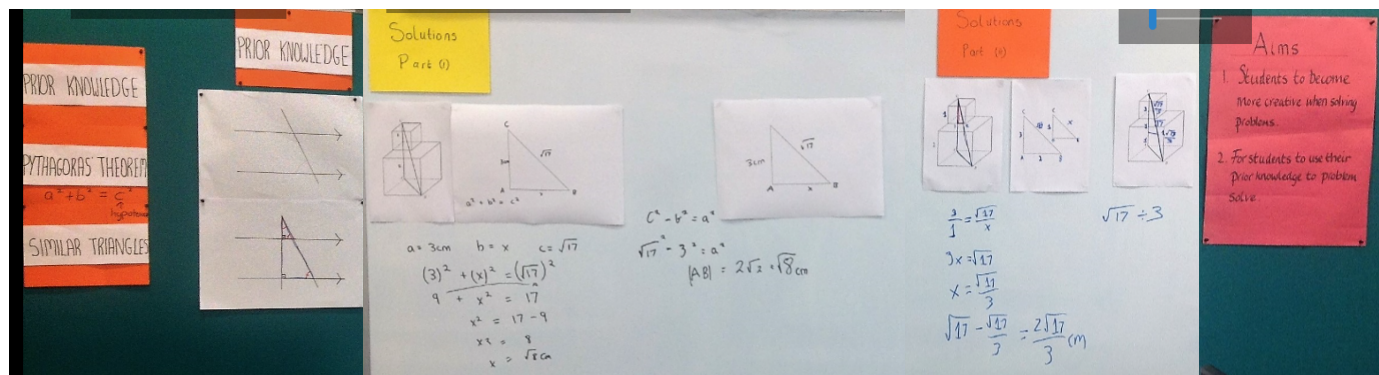## Level: Higher

Presenting the Problem

Placing a small cube on top of a larger one makes the shape shown in the diagram.

The cubes have edges of length 1 unit and 2 units.

Find the length of |BC|

The Board Plan

| Prior Knowledge & Posing the Task 10 minutes | → | Students working on the problem 10 minutes | → | Presentation of Solutions & Ceardaíocht 15 minutes | → | Summing up & Reflection 5 minutes |

Reflecting on the Learning

The students enjoyed this task as they had the opportunity to apply their Prior Knowledge to a more challenging question. Students were very familiar with Pythagoras's Theorem and most students were able to apply the theorem correctly to answer part (i) of the problem. Part (ii) of the problem caused some problems for some of the pupils. Working with ratio was certainly the challenging part of this problem, so it was very interesting to see some of the solutions that the pupils arrived at. Students worked at the problem for the entire 15 minutes during the problem solving part of the lesson and all pupils showed plenty of work on their page, hence showing their ability to continue with the problem and not give in!

Coláiste Chill Mhantáin

Maths Counts 2017
Engaging teachers in Lesson Study
Maynooth University, 3rd-4th March 2017