Logarithm lineup

Teacher notes

Why use this resource?

This can be used as a follow-on from Logarithm lattice or as a separate resource. Students are asked to line up a set of logarithmic expressions in ascending order. The techniques explored in Logarithm lattice and in Changing bases will get us part of the way, but a collection of other techniques are set out in a structured way to encourage students' problem solving skills.

Preparation

You may want to prepare cards for students to use in groups.

Possible approach

This resource would work well in pairs or small groups.

An interactive card sorter is included, this could be used at any stage during the process:

- at the start

    - the top of the stack could be considered and the question asked "What do we know about the size of this?"
    - two cards could be laid side by side and the question asked "Can we tell which is larger?"

- during the activity

    - (particularly if an interactive board is available) students could be invited to come and position cards
    - (if displayed on a board rather than screen) a number line could be drawn to arrange cards along

- at the plenary groups in turn could share what they found out and an ordered list created.

Key questions

There are some key questions in the *Problem* section under the *things to think about* toggle.

Possible support

In supporting materials, Partially sorted cards is an image of the logarithm cards arranged as a network similar to one of the diagrams in *Things you might have thought about*. You could display this or show it to individual students and ask them to think about what the diagram shows and how we can show the cards are in that order.

https://undergroundmathematics.org/exp-and-log/log-lineup