Worth 1000 words

Teacher notes

Why use this resource?

This scaffolded task is intended to help students build up confidence in sketching graphs of functions by helping them to focus on how the equation of a function gives information about features of its graph. In the warm-up section, students are asked to reflect on what they think about when sketching graphs of some quite familiar functions. In the main problem, several graphs are presented as possible sketch graphs for a rational function that students are unlikely to have met before. Students are asked to decide which graphs could represent this function, and which is the best representation. They should be encouraged to focus on the features of the sketch graphs such as intercepts and asymptotes, rather than making assumptions about scale and distances. The choice of an unfamiliar function means that students will have to think more carefully about how they can start to visualise or sketch the function.

Preparation

2 sets of cards (functions come as a double set per page, graphs as a single set) to be printed and cut out.

Possible extension

The 'Taking it further' section provides an opportunity for analysing some interesting functions. Teachers could select some from here, perhaps to use as extension material. Students could be given cards showing one function at a time to work on in conjunction with the page of graphs, with the aim of sketching the graph and, where possible, matching it with one of the given ones.