KOGNITY

What makes an IGCSE Maths Kognity Learner?

Kognity supports IGCSE students in growing lifelong academic and social-emotional skills that will help them succeed in further study and career goals. Use the tree below to explore how Kognity nurtures IGCSE Maths learners in developing these skills.

IGCSE Learner Attributes with Kognity

What you should know

By the end of this subtopic you should be able to:

Core

- Identify and use natural numbers, integers (positive, negative and zero) and real numbers.
- Identify and use prime numbers, including expressing numbers as a product of prime factors.
- Identify and use common factors and common multiples, and find the lowest common multiple (LCM) and highest common factor (HCF) of two numbers.
- Identify and use square and cube numbers.
- Calculate with squares, square roots, cubes and cube roots.
- Use directed numbers in practical situations.
- Demonstrate familiarity with the symbols $=, \neq, >, <, \geqslant, \leqslant$.
- Convert between, and find equivalent values of, decimals, fractions and percentages.
- Order decimals, fractions and percentages by magnitude.

Making connections

The reverse process of simplifying (or unsimplfying) is to multiply both the numerator and the denominator by a natural number greater than 1. This can be useful when comparing and ordering fractions and as shown in section 1.2.3, it can also be useful when adding or subtracting fractions.

Worked example 2

Madagascar and Baffin Island have a similar land areas. Madagascar is 0.115% of the Earth's total land area and Baffin Island is $\frac{1}{1020}$ of the total.

Which has the larger land area?

Hint

You need to be working with the same type of number in order to make a comparison.

Reflective Learners...

Develop the awareness and strategies to become lifelong learners.

Responsible Learners...

Take charge of their own learning while collaborating with others and respecting different points of view.

Innovative Learners...

persevere through new challenges and show tenacity and innovation in the face of uncertainty.

Confident Learners...

incorporate reasoning and problem-solving skills to explore the big ideas, history and real world application of Maths.

Engaged Learners...

Are intellectually curious and use their passion for knowledge to positively impact the world on a local, national and global level.

Study skills

You need two equations to find a unique solution for two unknowns. You can solve these equations simultaneously either by using the:

- graphical method
- substitution method
- elimination method.

The bridge in Laufenburg, completed in 2004.
After the height difference on the two sides was discovered, the German side was lowered and the bridge was completed.

Source: "Rheinbrücke Laufenburg" by Ingenieurlösungen is licensed under CC BY-SA 3.0.