

OIS Mathematics / Skill levels

This is a simplified version of the [national assessment criteria for grade 8 in report card for Mathematics skills](#)

9. luokka – päättöarvioinnin kriteerit arvosanalle 8

<p>Working skills (Työskentelyn taidot)</p> <p>Grades 7-9</p> <p>I understand and can explain how school mathematics is connected to real-life. I understand and can explain connections between different topics of mathematics. I can express my mathematical thinking both orally and in writing. I can analyze problems and use mathematics to solve them. I can evaluate a solution critically to decide whether it makes sense or not. I can apply mathematics in different contexts. I can use information and communication technology (for example calculators and computer programs) in studying mathematics.</p> <p>Arithmetics</p> <p>Grades 7-9</p> <p>I can use reasoning and mental mathematics actively in different situations. I can calculate with whole numbers, fractions and other real numbers.</p> <p>Grades 8-9</p> <p>I can tell what percent is and how it is used. I can calculate the following and use them in different situations:</p> <ul style="list-style-type: none">- percent value- percentage of the total- percent difference <p>Statistics and probabilities</p> <p>Grades 8-9</p> <p>I can collect, manage and present statistical information. I can calculate frequency and relative frequency. I can calculate mean, median, mode and range of values. I can calculate probabilities.</p>	<p>Algebra</p> <p>Grades 7-9</p> <p>I know what a variable is. I can solve equations.</p> <p>Grades 8-9</p> <p>I know what a function is. I can draw a straight line from its equation. I can draw a parabola from its equation. I can read information from graphs.</p> <p>Geometry</p> <p>Grades 7-9</p> <p>I can name and describe properties of straight lines, angles and polygons. I can describe connections between straight lines, angles and polygons. I can calculate areas of polygons. I can convert between units of area.</p> <p>Grades 8-9</p> <p>I can use Pythagoras theorem and trigonometric functions (sine, cosine, tangent).</p> <p>Grade 9</p> <p>I can calculate volumes of three dimensional objects. I can convert between units of volume. I understand what inscribed angle and central angle are.</p> <p>Algorithmic thinking</p> <p>Grades 7-9</p> <p>I can use algorithmic thinking. I can write simple computer programs.</p>
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6. luokka – lukuvuosisarviointin kriteerit arvosanalle 8

Working skills

I can see how things are related in math.
I can ask questions and make conclusions.
I can show my work in math problems in various ways.
I am able to solve math problems in various ways.

Objectives of instructions

I am usually able to say if the solution to a math problem is correct.
I mainly use mathematical language in the right way.
I know the decimal system and can use it correctly.
I can work with positive rational numbers and negative integers.
I am quite confident with mental math and written calculations.
I can recognize and describe shapes.
I can choose suitable equipment for measuring, use it and assess how reliable the result is.
I can make a table on given data.
I can interpret tables and diagrams.
I can code a functioning program in a graphical environment.

4. luokka – lukuvuosisarviointin kriteerit tasolle voimakkaasti kehittyvä

- I know the working skills for mathematics well (using manipulatives, drawing, talking, writing and using ICT).
- I do basic calculations well both in writing and in mental calculation.
- I know the concept of fractions well, as well as addition and subtraction with fractions having the same denominator.
- I know the concept of decimal numbers well, and I know addition and subtraction with decimal numbers.
- I know well how to examine the regularity of number sequences and how to continue a sequence of numbers according to a rule.
- I can recognise and classify shapes and figures well.
- I am able to choose a suitable measuring device and measure and estimate the soundness of the measurement result well.
- I know how to calculate perimeter and area.
- I know the most common conversions of measurement units well.
- I can draw up a table of the given data and read tables and diagrams well.

2. luokka - lukuvuosisarviointin kriteerit tasolle voimakkaasti kehittyvä

- I understand the ten-base system well.
- I have progressed well in understanding the number concept and sequence skills.
- I do additions and subtractions well.
- I do mental calculations well.
- I am good with multiplications.
- I have learnt how to categorize objects and shapes.
- I am good at solving word problems.
- I am good at solving tasks that require applying the skills that I have learnt.
- I have progressed well in using mathematics in solving problems.