How to Prepare for the Contest

The best way to prepare for the contest is to look at the contests from the previous years. Keep in mind that there is an extra section this year (section F), which means that sections D and E this year will be easier than last year since the hardest problems will move to section F.

The following is a partial list of topics that students of different ages may need to know. It is important to remember not to take this list too seriously, because

1. Not everything on the list will show up on the contest.
2. There may be topics on the contest that are not on the list.

List of Topics to Know

If your date of birth is 2003 or 2002:

- Basic addition, subtraction, multiplication, division, and order of operations. How brackets work. What words like sum, difference, produce, quotient, remainder mean.
- Basic shapes like triangles, squares, rectangles, and circles. Areas and perimeters of triangles, squares, and rectangles (but not circles).
- Basic fractions and divisibility (but not adding fractions). What a prime number is.

If your date of birth is 2001 or 2000, then all of the above plus:

- Prime factorization, GCD, LCM.
- Some more geometry words, like trapezoid, rhombus, and parallelogram. Equilateral, isosceles, and scalene triangles. Angles. Area and perimeter of a circle.
- The Pythagorean theorem.
- Reading data from a graph. Mean, median, and mode.
- Positive exponents.
- Basic probability.

If your date of birth is 1999 or 1998, then all of the above plus:

- More geometry: 3-dimensional objects, volumes, and surface area. More complicated geometry questions involving Pi.
- Probability, percentages
- Using fractions (maybe adding fractions).
- Knowing about "choose" and "permute" may be useful.

If your date of birth is 1997 or 1996, then all of the above plus:

- Using variables, solving linear equations, etc.
- Factorial notation
- Rational and irrational numbers