

# INTERNATIONAL KANGAROO MATHEMATICS CONTEST 2018

## Cadet Level (Class VII & VIII)

1. The duration of the competition is 3 hours.
2. 30 problems to solve: ten – 3 points each, ten – 4 points each and ten – 5 points each.
3. Calculators are not allowed. You may use basic geometric tools.
4. Scope of problems:
  - Operations on rational numbers.
  - Powers of natural numbers.
  - Equations, inequalities and systems of linear equations.
  - Area of a rectangle, a triangle and a circle.
  - Lines and rays on a surface.
  - Volume and surface area of geometric figures.
  - Angles: acute, right, and obtuse.
  - Supplementary angles, sum of angles in a triangle and in a quadrilateral.
  - Mathematical logic

## Junior Level (Grades IX & X)

1. The duration of the competition is 3 hours.
2. 30 problems to solve: ten – 3 points each, ten – 4 points each and ten – 5 points each.
3. Calculators are not allowed. You may use basic geometric tools.
4. Scope of problems:
  - Operations on real numbers.
  - Functions, polynomials, equations, inequalities.
  - Sequences of numbers.
  - Elements of combinatorics.
  - Synthetic plane geometry.
  - Analytic plane geometry.