Mathematics Pre-IB 10

Outcomes

NOVA SCOTIA
NOUVELLE-ÉCOSSE

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Mathematics Pre-IB 10

Prepared by the Department of Education and Early Childhood Development

This is the most recent version of the current curriculum materials as used by teachers in Nova Scotia.

Mathematics Pre-IB 10 Outcomes

Outcome 1. Demonstrate an understanding of number sets and interval notation.
Outcome 2. Perform algebraic expansion and factorization and quadratic factorization up to and including the method of decomposition.
Outcome 3. Simplify expressions involving radicals and perform operations involving radicals including multiplication and division of radical terms and rationalizing the denominator.
Outcome 4. Demonstrate an understanding of the Pythagorean theorem and employ it in solving 2D problems.
Outcome 5. Perform slope and solve problems involving analytic geometry with emphasis on straight lines and the distance from a line to a point.
Outcome 6. Understand the notions of congruency and similarity; create simple triangle congruence proofs; solve problems involving similar figures, and investigate the relationships among the lengths, areas, and volumes of similar figures.
Outcome 7. Perform linear transformations such as translations, reflections, and dilatations upon points and figures, and, for curves, determine the equation of the image using the reverse linear transformation.
Outcome 8. Summarize and analyze single variable discrete/grouped/cumulative data with a variety of statistics including mean, median, mode, range, and standard deviation; create and interpret graphical representations including column graphs, histograms, and box-and-whisker plots and relate these to normally distributed continuous data.
Outcome 9. Demonstrate an understanding of the methods used to solve quadratic equations, including factorization, completing the square, and the quadratic formula, and solve problems that require these methods.
Outcome 10. Demonstrate an understanding of the trigonometric ratios (sine, cosine, and tangent) for right angled triangles and apply these to problems in 2-D (including the formula for area of a triangle using sine) and 3-D; develop and apply the trigonometry for non-right-angled triangles, including the sine law and the cosine law, and prove simple trigonometric identities involving fractions, factorization, and the Pythagorean identity.
Outcome 12. Combine and simplify algebraic fractions having denominators of second degree or lower using the operations of multiplication, division, addition, and subtraction.
Outcome 13. Rearrange formulas using algebraic operations (including nth roots).

Outcome 14. Demonstrate understanding of the concepts of relation and function, function notation, composition of functions, simple transformations of functions and intersection of functions
Outcome 16. Apply exponential to problems involving growth, decay, compound interest, and depreciation, and demonstrate facility with the laws of exponents (including trinomial factoring involving exponential terms)
Outcome 17. Develop and apply procedures for finding the axis of symmetry, vertex, and intercepts of a quadratic function and apply these skills to quadratic optimization problems