

MATH FOR EXCELLENCE CURRICULUM

Excel 5

Polynomial equations and functions of third and higher degree

- Polynomials of 3rd and higher degree, division of polynomials
- Equations of 3rd and higher degree
- Remainder and factor theorems
- Rational zero theorem
- Radical equations
- Solving of 3rd and higher degree polynomial equations
- Functions of 3rd and higher degree: domain, range, zeros and graph
- Word problems related to the polynomial equations and functions

Similarity of triangles

- Proportionality in geometry
- Definition of similar triangles, Thales theorem
- Solving word problems related to similarity of triangles
- Similarity of other geometric figures
- Using similarity to solve some geometry construction problems

The Circle

- Theorem about central and inscribed (peripheral) angle in a circle
- Tangents to a circle
- Cyclic quadrilaterals (inscribed and circumscribed)
- Word problems related to cyclic quadrilaterals

Trigonometry of a right triangle

- Definition of a trigonometric function
- Trigonometry of a right triangle
- Values of trigonometric functions of 0° , 30° , 45° , 60° , and 90°
- Word problems related to trigonometry of a right triangle

Arithmetic and geometric sequences and series, compound interest

- Definition of a sequence, examples
- Arithmetic sequence and series
- Geometric sequences and series
- Compound interest
- Infinite geometric series
- Word problems related to arithmetic and geometric sequences and series