

MATH FOR EXCELLENCE CURRICULUM

Excel 3

Set of Real Numbers

The set of real numbers (from natural numbers to real numbers)

1. Operations in the set of rational numbers
2. Powers with the integer exponents
3. Monomials, polynomials, factorization of polynomials
4. Multiplication and division of polynomials
5. The greatest common factor and the least common multiple of numbers and polynomials
6. Arithmetic fractions: addition, subtraction, multiplication and division
7. Decimal numbers, relation between decimals, fractions, tables and graphs
8. Square root and powers with rational exponents
9. Rationalization of a denominator

Pythagorean Theorem

1. Word problems solved using Pythagorean theorem

Circle

1. Definition of a circle, number π
2. Perimeter and area of a circle
3. Cord of the circle
4. Arc length and sector area
5. Perimeter and area of a triangle and quadrilaterals
6. Angles and polygons, interior and exterior angles
7. Regular polygons: angles and diagonals



Linear equations and inequalities in one variable

1. One-variable linear equations
2. Solving word problems of first-degree using one-variable linear equations
3. Solution of one-variable linear inequality – numerical and graphical interpretation
4. Solving system of two or more linear inequalities with one variable
5. Absolute value of a real number
6. Equations and inequalities with absolute values
7. Cartesian coordinates and graphing
8. Linear function and graphical interpretation
9. Finding the intersection of two linear functions (by graphing)

System of Linear Equations in Two Variables

1. Definition of linear equations with two variables
2. Graphical representation of linear equation with two variables, linear function
3. Distance between two points in coordinate plane
4. Systems of two linear equations with two variables, graphical solution
5. Solving systems of two linear equations with two variables by substitution
6. Solving systems of two linear equations with two variables by elimination
7. Word problems related to the system of linear equations with two variables
8. Solving system of linear inequalities with two variables by graphing

System of three linear equations in three variables

1. Methods of substitution for the solution of three linear equations with three variables
2. Word problems related to the system of three linear equations with three variables



Volume and Surface Area of Solids

3. Cube
4. Prism
5. Pyramid
6. Truncated (cut) pyramid
7. Cylinder
8. Cone
9. Truncated (cut) cone
10. Sphere

