

Curriculum

Classe: GR8

Subject: Mathematics

Textbook: puissance /El -Ahlia

Learning domains	objectives	Learning outcomes/ competencies
Algebra	Powers: Know how to operate on powers	1-Perform calculations on powers having natural numbers as exponents 2-Calculate powers with negative exponents 3-find the sign of a numerical expression including powers 4-Using powers of 10 having integers as exponents 5-Write a number in scientific notation .
Algebra	Literal fractions: Perform calculations on literal fractions	1-Define a literal fraction 2-Reduce a literal fraction 3-Add two literal fractions 4-Subtract two literal fractions 5-Multiply two literal fractions 6-Divide two literal fractions
Algebra	Compound fractions: Be able to operate on compound fractions	1- Define a compound fraction 2- Reduce a compound fractions 3- Add two compound fractions 4- Subtract two compound fractions 5- Multiply two compound fractions 6- Divide two compound fractions
Geometry	Parallelograms: Be able to use the properties of a parallelogram	1- Define a parallelogram 2- Draw a parallelogram 3- Name a parallelogram 4- Identify the properties of a parallelogram ( opposite sides equal and parallel , diagonals bisect each other , opposite angles are equal ) 5- Prove that a quadrilateral is a parallelogram
Geometry	Special parallelograms: Be able to use the properties of special parallelograms ( Rectangle , Square , rhombus)	1-Define a rectangle 2-Draw a rectangle 3-Name a rectangle 4-Identify the properties of a rectangle ( opposite sides equal and parallel , diagonals bisect each other and equal , opposite angles are equal , four angles are right ) 5-Prove that a quadrilateral is a rectangle 6-Define a rhombus 7-Draw a rhombus

		<p>8-Name a rhombus</p> <p>9-Identify the properties of a rhombus ( opposite sides parallel , all sides are equal ,diagonals bisect each other and perpendicular , opposite angles are equal , diagonals are bisectors of the angles )</p> <p>10-Prove that a quadrilateral is a rhombus</p> <p>11-Define a square</p> <p>12-Draw a square</p> <p>13-Name a square</p> <p>14-Identify the properties of a square ( opposite sides parallel , diagonals bisect each other , equal and are perpendicular , all sides are equal , all angles are right )</p> <p>15-Prove that a quadrilateral is a square</p>
Algebra	Expand and reduce /remarkable identities: Be able to use remarkable identities in algebraic expressions+ factorize an algebraic expression	<p>1-Expand an algebraic expressions</p> <p>2-Reduce an algebraic expression</p> <p>3-Arrange an algebraic expression</p> <p>4-Factorize an algebraic expression</p> <p>5-use the identity <math>(a+b)^2=a^2+2ab+b^2</math></p> <p>6-use the identity <math>(a-b)^2=a^2-2ab+b^2</math></p> <p>7-Use the identity <math>(a+b)(a-b)= a^2-b^2</math></p>
Geometry	Trapezoid/ midpoint theorem : Be able to use the properties of a trapezoid / Be able to use the midpoint theorem and its converse	<p>1-Define a trapezoid</p> <p>2-Identify the properties of a trapezoid</p> <p>3-Prove that a quadrilateral is a trapezoid</p> <p>4-identify an isosceles trapezoid</p> <p>5-Use the properties of an isosceles trapezoid</p> <p>6-Identify a right trapezoid</p> <p>7-Use the properties of a right trapezoid</p> <p>8-recognize that the segment joining the midpoints of two sides in a triangle is parallel to the third and equal half of it .</p> <p>9-Recognize that the line drawn from the midpoint of a side and parallel to the second meets the third at its midpoint</p>
Algebra	Square roots: Be able to operate on square roots	<p>1-Define a square root</p> <p>2-Simplify radicals</p> <p>3-Add two radicals</p> <p>4-Subtract two radicals</p> <p>5-Multiply two radicals</p> <p>6-Divide two radicals</p> <p>7-Use remarkable identities to simplify numerical expressions including radicals</p> <p>8-Compare two radicals</p>

Geometry	Right angled triangles: Know the two cases of congruency of right triangles/Pythagorean theorem and its converse: Be able to use Pythagorean theorem and its converse	<ol style="list-style-type: none"> <li>1-Prove that two right triangles having the hypotenuse and one leg of the first respectively equal to the hypotenuse and one leg of the second are congruent triangles</li> <li>2--Prove that two right triangles having the hypotenuse and one acute angle of the first respectively equal to the hypotenuse and one acute angle of the second are congruent triangles</li> <li>3-know the corresponding elements of two congruent triangles</li> <li>4-Recognize that in a right triangle the hypotenuse squared is equal to the sum of the two legs squared</li> <li>5-Recognize that if the hypotenuse squared is equal to the sum of the two legs squared then the triangle is a right triangle</li> <li>6-Recognize that a right triangle is inscribed in a semi- circle of diameter its hypotenuse</li> <li>7-Recognize that if a triangle is inscribed in a semi-circle of diameter its hypotenuse then it is a right triangle</li> <li>8-Identify a semi equilateral triangle</li> <li>9-Calculate the sides of a semi equilateral triangle</li> </ol>
Algebra	Solving equations: Be able to solve equations	<ol style="list-style-type: none"> <li>1-Factorize an algebraic expression</li> <li>2-Solve the equation of the form <math>(ax + b)(cx + d) = 0</math></li> <li>3-Find the roots of an algebraic expressions</li> </ol>
Algebra	Fractional expressions: Be able to reduce a fractional expression	<ol style="list-style-type: none"> <li>1-Find the domain of definition of a fractional expressions</li> <li>2-Reduce a fractional expression</li> </ol>
Geometry	Arcs and angles: Be able to use the properties of arc and angles in circles	<ol style="list-style-type: none"> <li>1-Know the relative positions of a straight line and a circle</li> <li>2-Calculate the length of an arc of a circle</li> <li>3-Know the relative positions of two circles</li> <li>4-Know and use the relations between the measure of an angle and the measure of an arc( inscribed and central angles)</li> <li>5-Calculate the area of an angular sector</li> </ol>