

Summer Learning Program 2024

Teacher's Guide - Mathematics

Grade 7

Chapter 4- Congruent triangles (8 sessions)

The table below details the objectives addressed by each exercise of the pre-test, the grade level at which these objectives are taught, and the resources that can be used to remediate gaps in these objectives.

Exercise(s)	Objective(s)	Grade & chapter	Remedial
15	Use the vocabulary: principal vertex and base (in an isosceles triangle), hypotenuse and sides of the right angle (in a right triangle).	Grade 6 Chapter 12	ME-G6-Ch12-SLO7-Triangles Slides 3 to 18
16	Know that the sum of angles in a triangle is 180° .	Grade 6 Chapter 12	ME-G6-Ch12-SLO8-Triangles Slides 7, 8, and 15 (sum of the angles in a triangle)
17, 18	Identify the right, isosceles and equilateral triangles, by the sides and the angles.	Grade 6 Chapter 12	ME-G6-Ch12-SLO8-Triangles Slides 9 to 17 (Special triangles)
19	Recognise the special lines in a triangle.	Grade 6 Chapter 12	ME-G6-Ch12-SLO1-Triangles Slides 41 to 56 (angle bisector) ME-G6-Ch12-SLO2-Triangles Slides 6 to 28 (perpendicular bisector) ME-G6-Ch12-SLO3-Triangles Slides 6 to 23 (height) ME-G6-Ch12-SLO4-Triangles Slides 3 to 15 (median)

For every remedial activity, teachers can select from the allocated slides mentioned in the table and not necessarily all slides.

Triangles Case of equality (congruent triangles) – G7

Objectives	Resource	Slide(s)	Activity	Method
Recognize the identical elements of two	Triangles Case of equality (congruent)	3 to 6	Prerequisites	The teacher can use the KWL chart to check for students' acquisition of prerequisites. Afterwards, the teacher can remind the students of the

<p>equal (congruent) triangles. Apply the conditions of equality of two triangles. Apply the cases of equality in simple demonstrations.</p>	<p>triangles- G7</p>			related concepts to set the foundation for the class.	
		7	Problem of the chapter	The teacher has the students read the problem, discusses it with them, and gives them time to attempt to solve it (Problem-based learning). Students are not necessarily expected to solve it correctly at this level.	
		8	Activity 1	The teacher asks the students to sit in groups and work on Activity 1. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesises the result.	<p>Alternatively, the teacher can divide the students into 3 groups. Each group can work on one of the three activities. After completing the activities, the teacher asks the students to participate in a gallery walk before synthesizing the results. It is advisable to adopt the approach to the left in case the students are way behind the level of the class.</p>
		9	Activity 2	The teacher asks the students to sit in groups and work on Activity 2. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesises the result.	
		10	Activity 3	The teacher asks the students to sit in groups and work on Activity 3. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesizes the result.	

		11 to 16	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
		17 to 27	Applications	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.
		28	Problem of the chapter – solution	Students work on the problem individually or in groups, with guidance from the teacher.
		30	Focus	The teacher asks students to complete their KWL charts and compare their answers to the summary provided on the slide.
		29	Assignment	The teacher selects applications from the national textbook and asks students to solve them individually, in pairs, or in groups.

Chapter 11- Algebraic expressions (6 sessions)

The table below details the objectives addressed by each exercise of the pre-test, the grade level at which these objectives are taught, and the resources that can be used to remediate gaps in these objectives.

Exercise(s)	Objective(s)	Grade & Chapter	Remedial
3	Perform calculations on positive numbers by applying the law of order of operations.	Grade 6 Chapter 1	ME-G6-Ch01-SLO1-Order of operations Slides 37 to 59
4	Perform calculations on positive numbers by applying the law of order of operations.	Grade 6 Chapter 1	ME-G6-Ch01-SLO2-Order of operations Slides 4 to 23
5	Calculate the numerical value of a literal expression in the case of positive numbers.	Grade 6 Chapter 16	ME-G6-Ch16-SLO5-Calculation on literal expressions Slides 3 to 14
6, 7, 8, 9	Mastering the addition and subtraction of integers.	Grade 7 Chapter 5	https://tabshoura.com/mod/h5pactivity/view.php?id=17152
10, 11, 12	Multiplying integers by applying the rules of signs.	Grade 7 Chapter 6	https://tabshoura.com/mod/h5pactivity/view.php?id=21273

13, 14	<p>Calculating the product of two powers of the same positive number.</p> <p>Calculating the powers of the product and quotient of two positive numbers.</p> <p>Calculating a power of power of a positive number.</p>	Grade 7 Chapter 1	Powers- G7 Slides 4 to 18
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For every remedial activity, teachers can select from the allocated slides mentioned in the table and not necessarily all slides.

Algebraic expressions – G7

Objectives	Resource	Slide(s)	Activity	Method
<p>Understand the meaning of: “algebraic term”, “monomial”, “coefficient”, “variable”, “algebraic expression”.</p> <p>Recognize similar terms in an algebraic expression.</p> <p>Reduce similar terms in an algebraic expression.</p> <p>Perform operations on algebraic expressions (multiplication, expanding, factorization).</p>	Algebraic expressions-01- G7	3	Problem of the chapter	<p>The teacher has the students read the problem, discusses it with them, and gives them time to attempt to solve it (Problem-based learning). Students are not necessarily expected to solve it correctly at this level.</p>
		4	Activity	<p>The teacher asks the students to sit in groups and work on the activity. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesises the result.</p>
		5	Text of the lesson	<p>The teacher presents the text of the lesson and discusses it with the students.</p>
		6, 7	Applications	<p>The teacher employs the mix and match/Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.</p>
		8	Text of the lesson	<p>The teacher presents the text of the lesson and discusses it with the students.</p>
		9	Applications	<p>The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally</p>

				share their answers with the entire class.
		10	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
		11	Applications	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.
		12	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
		13, 14	Applications	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.
		16	Focus	The teacher divides the students into groups and asks each group to create a summary that includes a figure and a discussion. These summaries are then displayed on cardboards on the wall.
		15	Assignment	The teacher selects applications from the national textbook and asks students to solve them individually, in pairs, or in groups.
Understand the meaning of: “algebraic term”, “monomial”, “coefficient”, “variable”, “algebraic expression”. Recognize similar terms in an algebraic expression.	Algebraic expressions-02- G7	3, 4, 5	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
		6, 7	Activity	The teacher asks the students to sit in groups and work on the activity. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesises the result.
		8	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.

Reduce similar terms in an algebraic expression. Perform operations on algebraic expressions (multiplication, expanding, factorization).	9	Application	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the application individually, then compare their answers with a classmate, and finally share their answers with the entire class.
	10	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
	11	Application	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the application individually, then compare their answers with a classmate, and finally share their answers with the entire class.
	12	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
	13 to 16	Applications	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.
	17	Problem of the chapter – solution	Students work on the problem individually or in groups, with guidance from the teacher.
	19	Focus	The teacher divides the students into three groups, assigning each group two properties to create a summary that includes a figure and a discussion. These summaries are then displayed on cardboards on the wall.
	18	Assignment	The teacher selects applications from the national textbook and asks students to solve them individually, in pairs, or in groups.

Chapter 7- Angles and lines (6 sessions)

The table below details the objectives addressed by each exercise of the pre-test, the grade level at which these objectives are taught, and the resources that can be used to remediate gaps in these objectives.

Exercise(s)	Objective(s)	Grade & Chapter	Remedial
1	Classify angles according to their type: right, acute, obtuse, straight.	Grade 6 Chapter 7	ME-G6-Ch07-SLO1-Adjacent Angles – Vertically Opposite Angles Slides 6 to 16 (types of angles)
2	Recognize adjacent angles and vertically opposite angles.	Grade 6 Chapter 7	ME-G6-Ch07-SLO1-Adjacent Angles – Vertically Opposite Angles Slides 29 to 44 (adjacent angles) ME-G6-Ch07-SLO2-Adjacent Angles – Vertically Opposite Angles Slides 3 to 17 (Vertically opposite angles)

For every remedial activity, teachers can select from the allocated slides mentioned in the table and not necessarily all slides.

Angles and lines – G7

Objectives	Resource	Slide(s)	Activity	Method
Use Euclid's parallel postulate in proofs. Identify alternate and corresponding angles formed by two parallel lines cut by a third. Use the property according to which the alternate angles are equal. Use the property according to which the corresponding angles are equal. Use the converse reverse of the two preceding properties. Prove that the sum of the angles	Angles and lines- G7	3, 4	Prerequisites	After covering the prerequisites listed in the table above, the teacher can remind the students of the related concepts to set the foundation for the class.
		5	Problem of the chapter	The teacher has the students read the problem, discusses it with them, and gives them time to attempt to solve it (Problem-based learning). Students are not necessarily expected to solve it correctly at this level.
		6, 7	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
		8	Application	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the application individually, then compare their answers with a classmate, and finally share their answers with the entire class.
		9	Activity	The teacher asks the students to sit in groups and work on the activity. After completing the activity, the students discuss their solutions with

in a triangle is 180° .			their classmates and the teacher, who then synthesises the result.
	10, 11	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
	12, 13, 14	Applications	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the applications individually, then compare their answers with a classmate, and finally share their answers with the entire class.
	15	Activity	The teacher asks the students to sit in groups and work on the activity. After completing the activity, the students discuss their solutions with their classmates and the teacher, who then synthesises the result.
	16	Text of the lesson	The teacher presents the text of the lesson and discusses it with the students.
	17	Application	The teacher employs the Think-Pair-Share strategy in the classroom: students first solve the application individually, then compare their answers with a classmate, and finally share their answers with the entire class.
	18	Problem of the chapter – solution	Students work on the problem individually or in groups, with guidance from the teacher.
	20, 21, 22	Focus	The teacher divides the students into three groups, assigning each group two properties to create a summary that includes a figure and a discussion. These summaries are then displayed on cardboards on the wall.
	19	Assignment	The teacher selects applications from the national textbook and asks students to solve them individually, in pairs, or in groups.