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MPUMALANGA PROVINCE
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING

MST ACADEMY

MATHEMATICS

GRADE 9

PROJECT

DUE 08 SEPTEMBER 2023

MARKS: 50

PROJECT INSTRUCTION: This project must be completed in pairs of two.

Your city council has decided to build a new town that will incorporate houses for residents to live in, a recreation park and a small shopping center. The council believes that using triangle roofing for the houses is best as it is stable, stronger and ensures perfect water drainage. The mayor has therefore decided to task you and your partner with the following:

- 1. Design a map that includes not more than 8 houses, a shopping center, a recreation park, and a children care center.**
- 2. Do research and write a report on similarity and congruency of triangles.**

INSTRUCTIONS:

- You must do this project with 1 other partner (the project must be done in pairs of two).
- Submit only one combined document, that will include your one map and your report.
- If you decide to use different colours, be sure not to overdo it.
- Provide labels for everything.
- All drawings should be done by hand.
- A4 or A3 paper can be used for drawing.
- Ensure that your work meets the requirements.
- The project must be submitted **by 8 September 2023 at the latest.**
- BE CREATIVE!

Part 1: Designing a map. (31 marks)

Design a map that meets the mayor's needs above. Ensure that your map meets the following requirements:

- It must be 2 Dimensional (2D).
- It must include several distinct kinds of lines, angles, and triangles.
- It must incorporate two sets of streets that are parallel, two sets of perpendicular streets and one street that intersects another street to form an obtuse angle.

Use the rubric attached as guide before submitting your work.

Part 2: Report on Similarity and Congruency of Triangles. (19 marks)

Do research and write a report on similarity and congruency of triangles. Ensure that your report includes the following:

- a) A rough description of what Similarity and Congruency are. (4)
- b) A depiction of congruent triangles for each of the four conditions (be sure to mention the conditions). (8)
- c) A depiction of Similarity of triangles under both conditions. (4)
- d) An example of a pair of similar triangles that are also congruent. (3)

GRAND TOTAL: 50

GRADE 8

Designing a Map - RUBRIC

Marks: 35

Name:	Name:
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MARKS	0 - 1	2 - 3	4 - 5		MARKS OBTAINED
Effort	A poor effort OR handed in late	A fair attempt is made, but not good enough.	Exceptional effort made is evident.		
Creativity	No effort to be creative	A fair attempt is made, not creative enough.	A creative project, additional relevant details are added. The project is well thought.		
Presentation	Poor presentation standard, project not neat.	Average presentation standard, project looks neat, and well thought.	Outstanding presentation, the project is very neat		
MARKS	0 - 1	2 - 4	5 - 6	7 - 8	
Requirements	No evidence of housing, a recreation park, a shopping and a children care centre. Roads not well developed.	Some evidence of housing, recreation park, shopping and children care centre is present, not all clearly marked. Adequate road system present.	Acceptable depiction of housing clearly labelled, children care centre, shipping centre and recreation park is present, may not be clearly stated. Roads well shown.	All requirements are met, roads are clearly marked and shown. Housing is not more than 8, shopping centre is clearly shown, park is present and children care centre is well indicated.	
Use of Mathematical tools	No proof of parallel lines, perpendicular lines and intersecting lines for showing an obtuse angle, No triangles used.	Some proof of parallel lines, no perpendicular lines present and intersecting lines are not showing an obtuse angle. Little to no evidence of triangles used.	Enough proof of parallel lines, perpendicular lines present and intersecting lines are present at some angle, triangles are used.	Parallel lines are clearly shown, perpendicular lines present and 90° is shown and intersecting lines are present at an obtuse angle, triangles are clear to see.	

