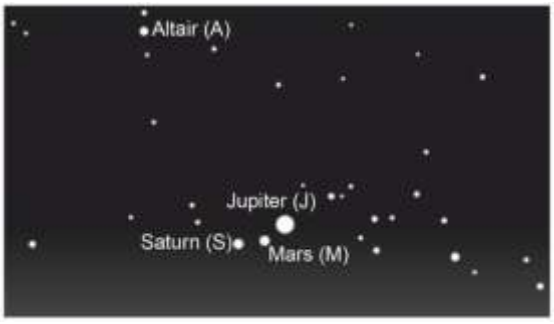
Curriculum Aligned Assessment Items
Mathematical Literacy
Class 9 – Chapter 8
Quadrilaterals

Atul likes to observe the stars with his telescope. He likes to track the movements of stars in the sky. He took a picture of the night sky one day. On that day, Mars was equidistant from Saturn and Jupiter.



He draws a circle such that the dots showing the planets Mars (M), Jupiter (J), Saturn (S) and a star Altair (A) lies on the boundary of a circle and ∠SMJ = 150°.

SAS21M09S0801

1 What is the measure of ∠SAJ?

A. 30°
B. 45°
C. 150°
D. 210°

SAS21M09S0802

2 Atul claims that the quadrilateral MJAS is a kite.
What additional information is required to confirm his claim?

A. Distance between Altair and Saturn is equal to the distance between Mars and Jupiter.
B. Distance between Altair and Jupiter is equal to the distance between Mars and Saturn.
C. Distance between Altair and Saturn is equal to the distance between Altair and Mars.
D. Distance between Altair and Saturn is equal to the distance between Altair and Jupiter.

SAS21M09S0803

3 The adjacent sides of quadrilateral A are equal to corresponding sides of Quadrilateral B. All angles of Quadrilateral A measure 90°. The angles of Quadrilateral B are 120°, 60°, 120° and 60° respectively. Which quadrilateral has a greater area? Give reasons.

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SAS21M09S0804

4 Sanya has a triangular piece of land. She wants to divide it into four equal areas. Suggest a way to do so.

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SAS21M09S0805

5 Does joining four distinct points always produce a quadrilateral? Justify your answer.

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The figure below shows the side view of a shopping trolley. The metal plate is fixed on the side by the store keeper for advertisement.

SAS21M09S0806

6 Three angles of the basket are obtuse. Which type of angle is the fourth?

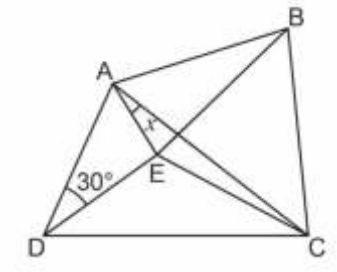
A. Acute
B. Obtuse
C. Right
D. Reflex

SAS21M09S0807

7 What is the shape of the metal plate?

A. Square
B. ectangle
C. Rhombus
D. Parallelogram

In the quadrilateral ABCD given below, ∠DAC = 90° and AB = AC = AD = DE = EB.



SAS21M09S0808

8 What is the value of ∠EAC?

A. 15°
B. 30°
C. 45°
D. 90°

SAS21M09S0809

9 Which type of quadrilateral is ABCE?

A. Rhombus
b. Kite
c. Trapezium
d. Parallelogram

SAS21M09S0810

10 What is the value of ∠ABE?

A. 20°
B. 30°
C. 45°
D. 60°

Answers

Item Number	Question 1
Question Code	SAS21M09S0801
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. 30°
No Credit (No Score)	Any other response or missing response

Item Number	Question 2
Question Code	SAS21M09S0802
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. Distance between Altair and Saturn is equal to the distance between Altair and Jupiter.
No Credit (No Score)	Any other response or missing response

Item Number	Question 3
Question Code	SAS21M09S0803
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Interpret & Evaluate
Item Type	Closed Constructed Response
Full Credit (Full Score)	Mention Quadrilateral A along with a valid mathematical reason. • Quadrilateral A, both the quadrilaterals have an equal base but the altitude of Quadrilateral A is greater.
No Credit (No Score)	Any other response or missing response

Item Number	Question 4
Question Code	SAS21M09S0801
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Employ
Item Type	Closed Constructed Response
Full Credit (Full Score)	Accept a valid mathematical division. • Sanya can find mid-points of the sides of the triangular region and create a smaller triangular region by connecting them. In this way, the triangular region can be divided into four triangles of equal area. • Sanya can divide one side into four equal parts and connect each point on the base to the vertex (this may be a more practical way if all the land owners need some part touching the road for access).
No Credit (No Score)	Any other response or missing response

Item Number	Question 5
Question Code	SAS21M09S0805
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Interpret & Evaluate
Item Type	Closed Constructed Response
Full Credit (Full Score)	No, with valid justification. No, there can be three cases. • When all the points are collinear, the resulting figure is a line. • When three points are collinear out of four, the resulting figure is a triangle. • When no three points out of four are collinear, the resulting figure is a quadrilateral.
No Credit (No Score)	Any other response or missing response

Item Number	Question 6
Question Code	SAS21M09S0806
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Types of Angles
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. Acute
No Credit (No Score)	Any other response or missing response

Item Number	Question 7
Question Code	SAS21M09S0807
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Types of Quadrilateral
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. Parallelogram
No Credit (No Score)	Any other response or missing response

Item Number	Question 8
Question Code	SAS21M09S0808
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Quadrilaterals
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. 15°
No Credit (No Score)	Any other response or missing response

Item Number	Question 9
Question Code	SAS21M09S0809
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Types of Quadrilaterals
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. Kite
No Credit (No Score)	Any other response or missing response

Item Number	Question 10
Question Code	SAS21M09S0810
Grade & Chapter Name	Grade 9 | Quadrilaterals
Concept | Sub-concept	Geometry | Angles of Angles
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. 30°
No Credit (No Score)	Any other response or missing response