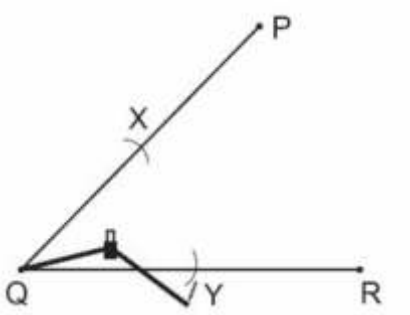
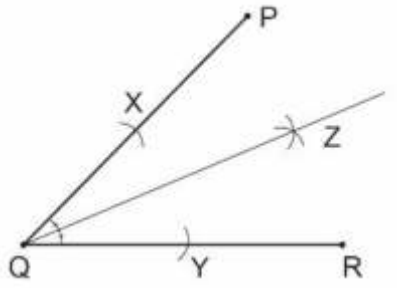
Curriculum Aligned Competency Based Test Items
Mathematics
Class 9 – Chapter 11
Constructions

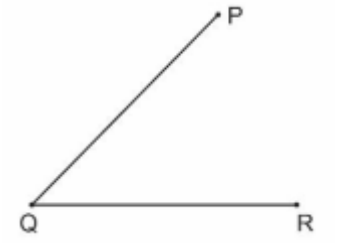
Pradeep bisects a given angle using a compass and a ruler.
Here are some images of Pradeep's work.



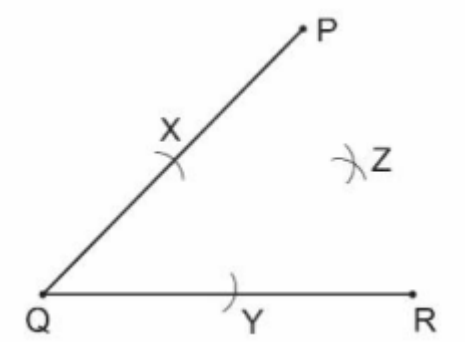
Step 2: Without changing the radius from the intersection of each arc and the leg of the angle, mark arcs off in the angle's interior so that they intersect.



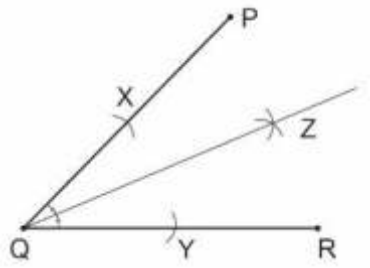
This is the output of Pradeep's work after step 2



Step 1: With the vertex of the angle as centre and any radius he draws two arcs intersecting the arms of the angle.



Step 3: Draw a line from point O to the intersection of the arcs.



SAS21M09S1101

1 Which quadrilateral will be generated when the points Q, X, Y and Z are joined?

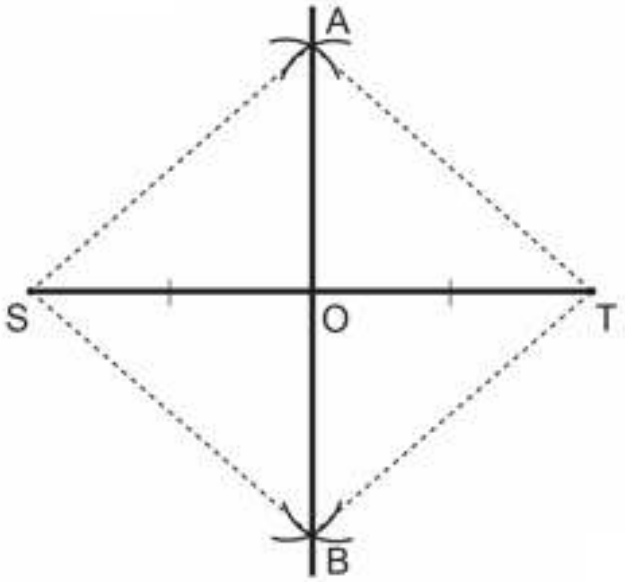
A. Square
B. Rectangle
C. Rhombus
D. Trapezium

SAS21M09S1102

2 Pradeep measures angle YQZ as 30°. He joined point Y with point P.
What is the measure of angle QYZ?

A. 30°
B. 60°
C. 120°
D. 150°

Here is a figure in which AB is a perpendicular bisector of line segment ST.
To construct the perpendicular bisector AB, Aditi marks A and B equidistant from S and T using a compass.

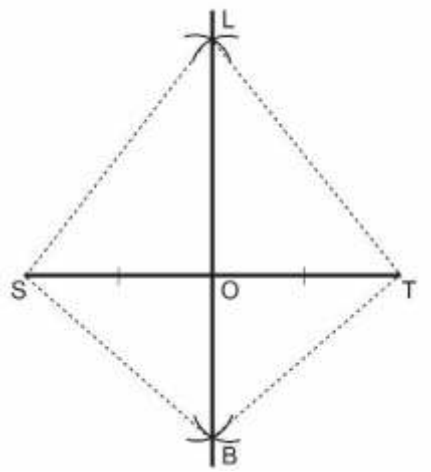


SAS21M09S1103

3 Which of the following is **not true** for the figure shown above?

A. AT is equal to SB.
B. ∠SAO is greater than ∠TBO.
C. ∠AOS and ∠AOT forms a linear pair.
D. O is the mid-point of the line segment ST.

Anu Radha says, 'You can get a perpendicular bisector of ST when the radii of arcs on one side of ST is different from the radii of arcs on the other side of ST.
She draws this diagram to illustrate her point.

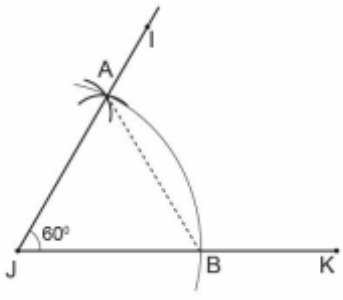


SAS21M09S1104

4 Zoya measures angle TLB =25° and angle LSB = 90°.
What is the measure of angle BTO?

A. 25°
B. 45°
C. 50°
D. 65°

Given below is the output of the construction of a 60 degree angle using a compass and a straight edge.
Here, triangle ABJ is an equilateral triangle.



SAS21M09S1105

5 What is the sum of ∠IAB and ∠KBA?

A. 120°
B. 180°
C. 240°
D. 360°

SAS21M09S1106

6 Pradeep draws a line parallel to AB which joins point I and point K.
What kind of triangle is ABK?

A. Scalene
B. Isosceles
C. Equilateral
D. Right-angled

SAS21M09S1107

7 Jyoti wants to construct a triangle in which the measure of two angles are 45° and 60°, respectively and the sum of all three sides is 15 cm.
He drew a line segment EF of length 15 cm.
Which of the following would be Jyoti's next step to construct the triangle at point E?

A. Construct an angle of 15°.
B. Construct an angle of 30°.
C. Construct an angle of 60°.
D. Construct an angle of 120°.

SAS21M09S1108

8 A triangle whose base angles measure 70° and perimeter is 28 cm is drawn.
Which of the following options shows the side lengths of the triangle formed?

A. 7 cm, 14 cm and 7 cm
B. 8 cm, 12 cm and 8 cm
C. 9 cm, 10 cm and 9 cm
D. 10 cm, 8 cm and 10 cm

SAS21M09S1109

9 Paritosh wants to construct a triangle RST, in which angle S = 45°, ST= 10 cm long and RS-RT = 2 cm. He has completed construction of some steps.
Step 1: Draw the base ST of the triangle
Step 2: At point S, make an angle RST of measure 45°.
What should be Paritosh's next step?

A. Mark a point on RS at a distance of 2 cm from S.
B. Mark a point on RS at a distance of 8 cm from S.
C. Mark a point on RS at a distance of 2 cm from T.
D. Mark a point on RS at a distance of 8 cm from T.

SAS21M09S1110

10 Construct a triangle ABC in which BC = 7.5cm, ∠B = 46° and AB + AC = 13 cm.

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Answers

Item Number	Question 1
Question Code	SAS21M09S1101
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Basic Construction)
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. Rhombus
No Credit (No Score)	Any other response or missing response

Item Number	Question 2
Question Code	SAS21M09S1102
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Basic Construction)
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. 120°
No Credit (No Score)	Any other response or missing response

Item Number	Question 3
Question Code	SAS21M09S1103
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction of Perpendicular Bisector
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. ∠SAO is greater than ∠TBO.
No Credit (No Score)	Any other response or missing response

Item Number	Question 4
Question Code	SAS21M09S1104
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction of Perpendicular Bisector
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. 25°
No Credit (No Score)	Any other response or missing response

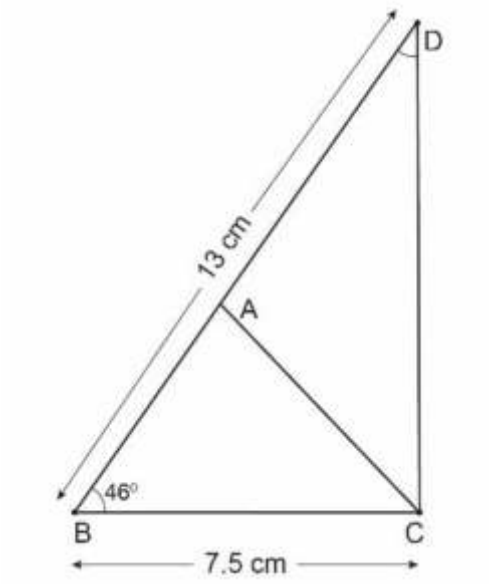
Item Number	Question 5
Question Code	SAS21M09S1105
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. 240°
No Credit (No Score)	Any other response or missing response

Item Number	Question 6
Question Code	SAS21M09S1106
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	C. Equilateral
No Credit (No Score)	Any other response or missing response

Item Number	Question 7
Question Code	SAS21M09S1107
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	B. Construct an angle of 30°.
No Credit (No Score)	Any other response or missing response

Item Number	Question 8
Question Code	SAS21M09S1108
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	Interpret & Evaluate
Item Type	Multiple Choice Question
Full Credit (Full Score)	D. 10 cm, 8 cm and 10 cm
No Credit (No Score)	Any other response or missing response

Item Number	Question 9
Question Code	SAS21M09S1109
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	Employ
Item Type	Multiple Choice Question
Full Credit (Full Score)	A. Mark a point on RS at a distance of 2 cm from S.
No Credit (No Score)	Any other response or missing response

Item Number	Question 10
Question Code	SAS21M09S1110
Grade & Chapter Name	Grade 9 | Constructions
Concept | Sub-concept	Geometry | Construction (Construction of a Triangle)
Competency	
Item Type	Closed Constructed Response
Full Credit (Full Score)	Accept all constructions with appropriate measurement. 
No Credit (No Score)	Any other response or missing response