JP Maths Revision

Attempt the paper before watching the solutions!

https://www.youtube.com/@JPMathsRevision

FOUNDATION / HIGHER TIER

Congruent Triangles

INSTRUCTIONS

- Use **black ink** or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- You must **show all your working.**
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

INFORMATION

- The marks for **each** question are shown in brackets– *use this as a guide as to how much time to spend on each question.*

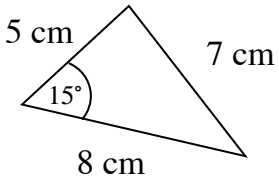
ADVICE

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

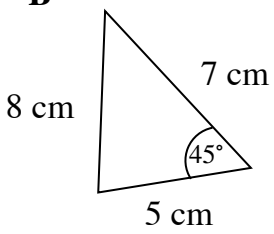
You've got this!

1. Which two triangles are congruent?

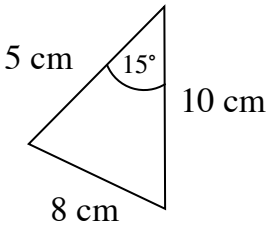
A



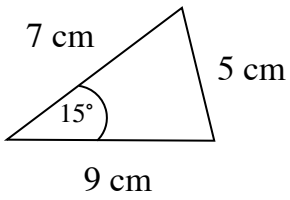
B



C



D



A, B

(1)

Give reason for your answer.

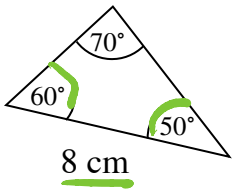
Side - Side - Side (SSS)

(1)

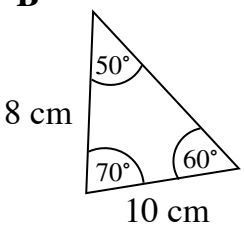
(Total for Question 1 is 2 marks)

2. Which two triangles are congruent?

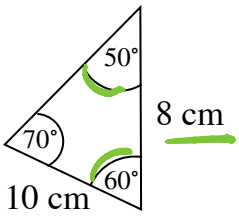
A



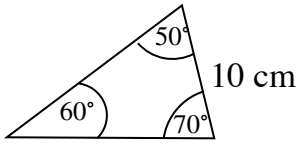
B



C



D



A, C

(1)

Give reason for your answer.

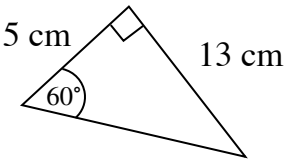
Side, angle, side (SAS)

(1)

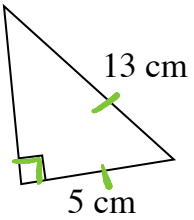
(Total for Question 2 is 2 marks)

3. Which two triangles are congruent?

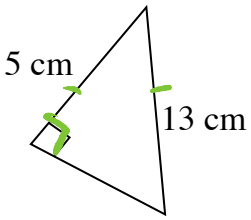
A



B



C



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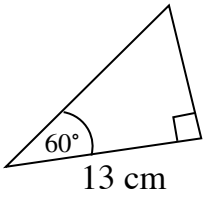


B, C

(1)

Give reason for your answer.

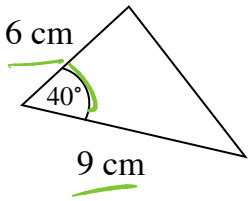
Right angle - Hypotenuse - Side (RHS)

(1)

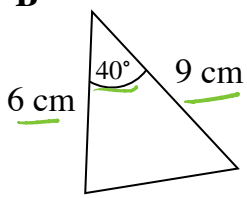
(Total for Question 3 is 2 marks)

4. Which two triangles are congruent?

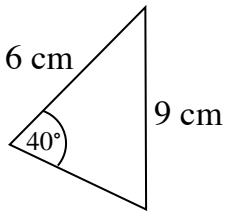
A



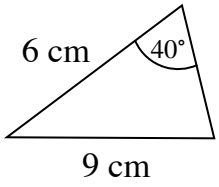
B



C



D



A, B

(1)

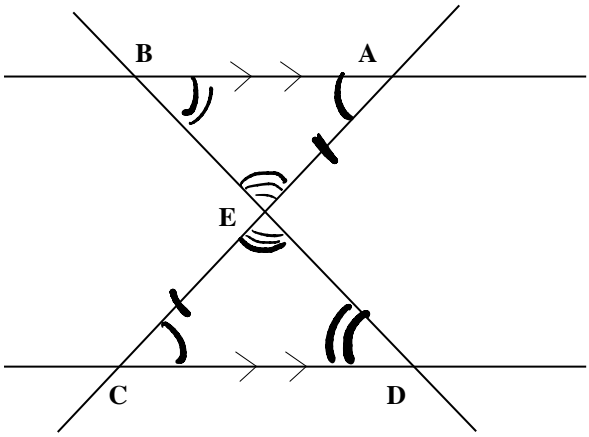
Give reason for your answer.

Side, angle, side (SAS)

(1)

(Total for Question 4 is 2 marks)

5.



AB is parallel to CD.

Lines AC and BD intersect at E.

AE = CE

Prove that triangle AEB is congruent to triangle CED.

(A) $\angle BAE = \angle ECD$ → alternate angles

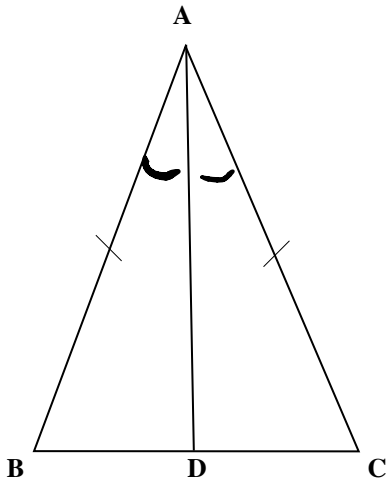
(S) $AE = CE$

(A) $\angle BEA = \angle CED$ → Vertically opposite

↳ ASA

(Total for Question 5 is 4 marks)

6.



Triangle ABC is isosceles where AB = AC.

Point D lies on BC.

$\angle BAD = \angle DAC$

Prove that triangle ABD is congruent to triangle ACD.

(S) AB = AC

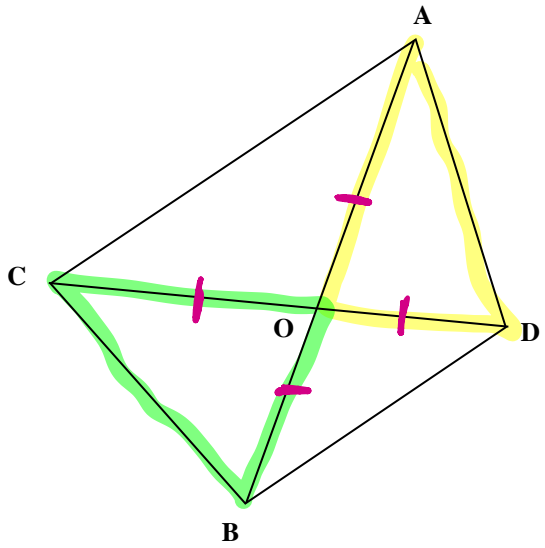
(A) ∠BAD = ∠DAC

(S) AD is a Shared Side

↳ SAS

(Total for Question 6 is 4 marks)

7.



Lines AB and CD cross at O.

AO = CO

BO = DO

Prove that triangle AOD is congruent to triangle COB.

(S) AO = CO

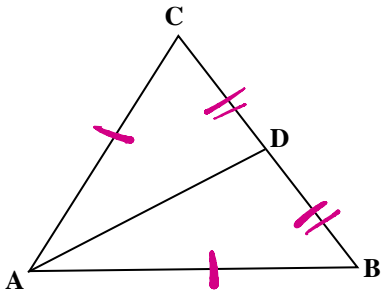
(A) ∠COB = ∠AOD → vertically opposite

(S) BO = DO

↳ SAS

(Total for Question 7 is 4 marks)

8.



Triangle ABC has line AD drawn to BC

AB = AC

AD bisects angle A

Probe that triangle ABD is congruent to triangle ACD.

(S) AC = AB

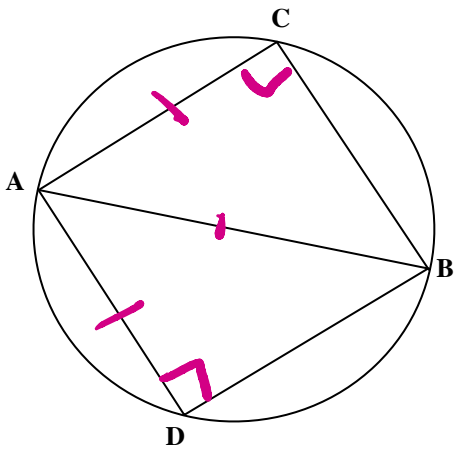
(S) CD = DB → D is a bisector

(S) AD is a shared side

↳ SSS

(Total for Question 8 is 4 marks)

9.



AB is the diameter of a circle.

AC = AD

Point C and D lie on the circumference of the circle.

Prove that triangle ACB is congruent to triangle ADB.

(R) $\angle ADB = \angle ACB = 90^\circ$ → angles in a semi circle meet at 90°.

(H) AB is a Shared Side

(S) AC = AD

↳ RHS

(Total for Question 9 is 4 marks)