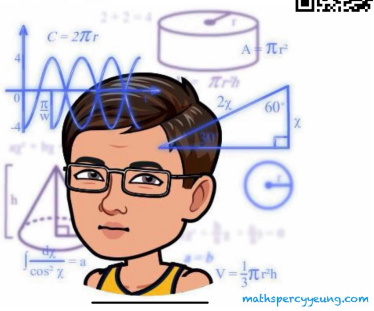
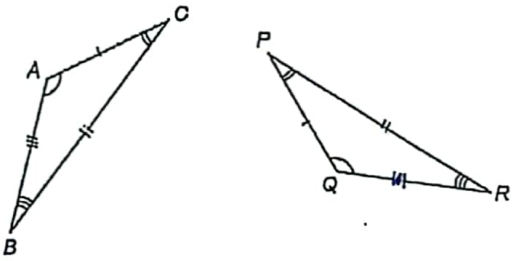


Mathematics
Test (Ch.5 Congruence)

Part A: Multiple Choice
(Circle the best answer and each correct answer carries 2 marks.)

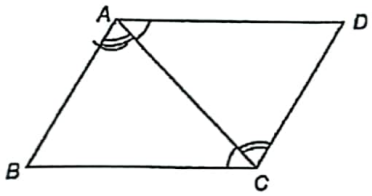
1. Refer to the figure. Which of the following is correct?



A. $\triangle ABC \cong \triangle PQR$
B. $\triangle BAC \cong \triangle QPR$
C. $\triangle CAB \cong \triangle PRQ$
D $\triangle ACB \cong \triangle QPR$

2. It is given that $\triangle PQR \cong \triangle WXY$. If $\angle W = 45°$ and $\angle R = 58°$, find $\angle Q$.
A. 45°
B. 58°
C. 68°
D 77°

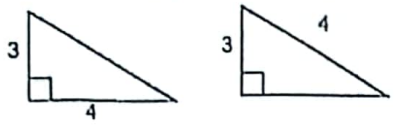
3. Refer to the figure. The reason for $\triangle ABC \cong \triangle CDA$ is



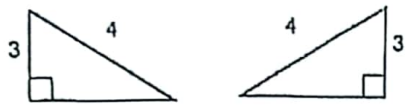
A. SSS.
B SAS.
C. ASA.
D. AAS.

4. Which of the following pairs of triangles must be congruent?

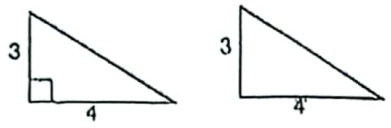
A.



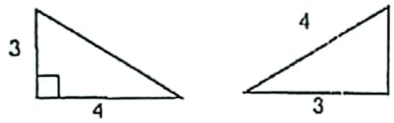
B.



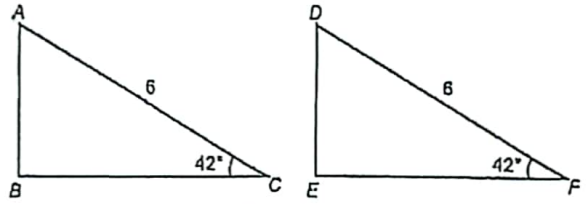
C.



D.



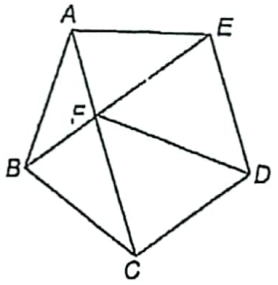
5. In $\triangle ABC$ and $\triangle DEF$ as shown, $AC = DF = 6$ and $\angle C = \angle F = 42°$.



Which of the following additional conditions and reasons can justify $\triangle ABC \cong \triangle DEF$?

	Additional condition	Reason for $\triangle ABC \cong \triangle DEF$
A.	$\angle B = \angle E = 90°$	RHS
B.	$BC = EF$	SAS
C.	$\angle A = \angle E = 60°$	AAS
D.	$AB = DE$	SSA

6. In the figure, $ABCDE$ is a regular pentagon. AC and BE intersect at the point F.



Which of the following are true?

I. $\triangle ABC \cong \triangle EAB$

II. $BE \parallel CD$

III. $BC = FC$

A. I and II only

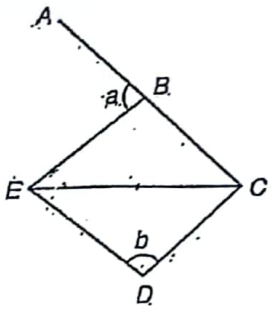
B. I and III only

C. II and III only

D. I, II and III

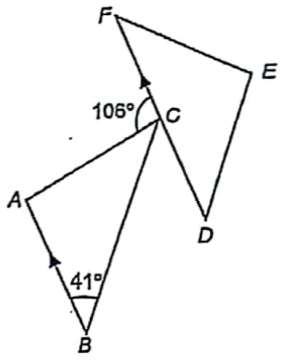
Part B: Conventional Questions

7. In the figure, ABC is a straight line and CE bisects $\angle BED$.
If $a + b = 180°$, prove that $\triangle EBC \cong \triangle EDC$. (3 marks)

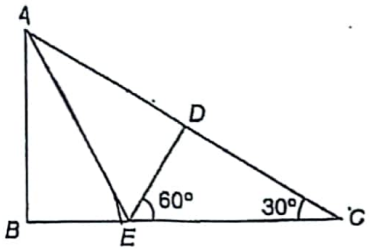


8. In the figure, DCF is a straight line. It is given that $\triangle ABC \cong \triangle EFD$ and $BA \parallel DF$.
Find
(a) $\angle DEF$,
(b) $\angle EDF$.

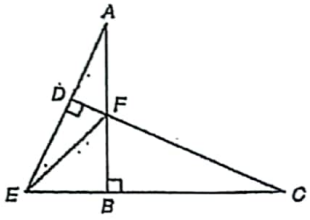
(4 marks)



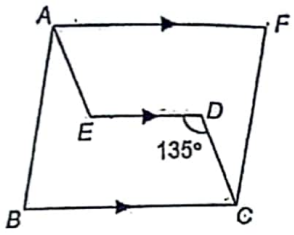
9. In the figure, D is a point on AC such that $AB = AD$. E is a point on BC. Prove that $\triangle ABE \cong \triangle ADE$. (3 marks)



10. In the figure, ADE, AFB, CBE and CFD are straight lines. $AB \perp EC$, $CD \perp AE$ and $AB = BC$. Let $\angle BFC = x$. Prove that $\triangle AEB \cong \triangle CFB$. (3 marks)



11. In the figure, $ABCDE \cong CFAED$. Given that $AF // ED // BC$ and $\angle EDC = 135°$, find $\angle EAF$. (2 marks)



12. In the figure, $ABCD \cong PQRS$.
(a) Find $\angle SPQ$.
(b) Is AB parallel to DC? Explain your answer.
(5 marks)