

**EXERCISE 7.1**

In each of the following, write the correct answer:

1. Which of the following is not a criterion for congruence of triangles?

- (A) SAS  
 (B) ASA  
 (C) SSA  
 (D) SSS

**Solution:**

(C) SSA

Explanation:

We know that,

Two triangles are congruent, if the side(S) and angles (A) of one triangle is equal to another.

And criterion for congruence of triangle are SAS, ASA, SSS, and RHS.

SSA is not the criterion for congruency of a triangle.

Hence, option C is the correct answer.

2. If  $AB = QR$ ,  $BC = PR$  and  $CA = PQ$ , then

- (A)  $\triangle ABC \cong \triangle PQR$   
 (B)  $\triangle CBA \cong \triangle PRQ$   
 (C)  $\triangle BAC \cong \triangle RPQ$   
 (D)  $\triangle PQR \cong \triangle BCA$

**Solution:**

(B)  $\triangle CBA \cong \triangle PRQ$

Explanation:

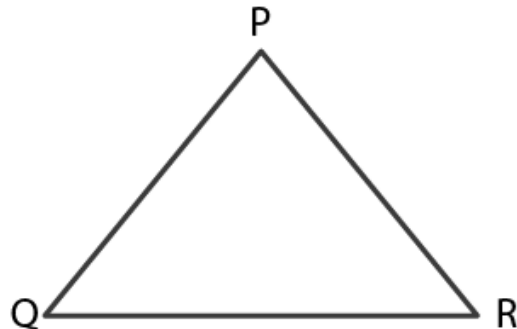
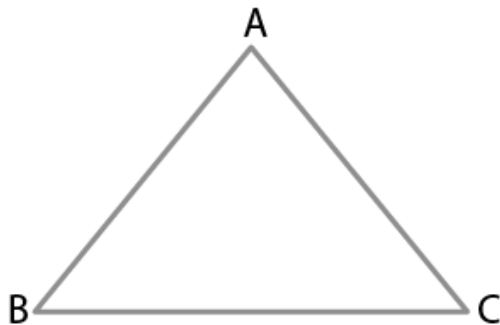
According to the question,

$AB = QR$ ,  $BC = PR$  and  $CA = PQ$

Since,  $AB = QR$ ,  $BC = PR$  and  $CA = PQ$

We can say that,

A corresponds to Q, B corresponds to R, C corresponds to P.



Hence, (B)  $\triangle CBA \cong \triangle PRQ$

Hence, option B is the correct answer.

3. In  $\triangle ABC$ ,  $AB = AC$  and  $\angle B = 50^\circ$ . Then  $\angle C$  is equal to

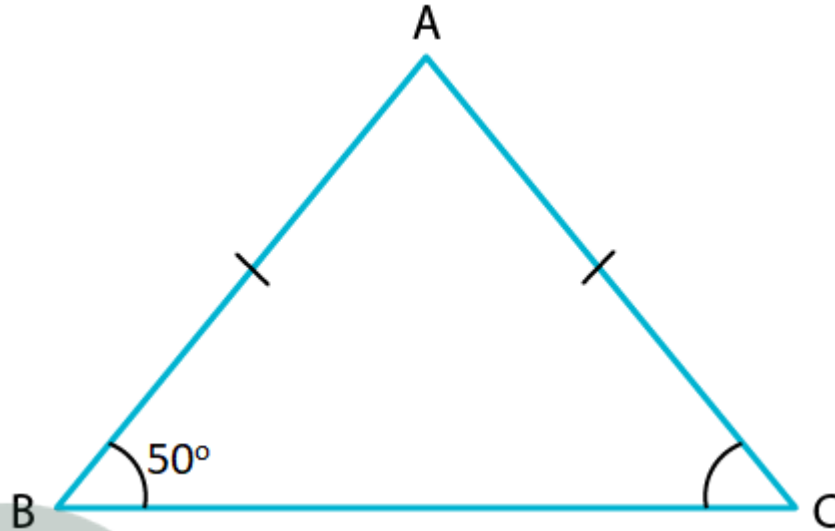
- (A)  $40^\circ$  (B)  $50^\circ$  (C)  $80^\circ$  (D)  $130^\circ$

**Solution:**

**(B)  $50^\circ$**

Explanation:

According to the question,  
 $\Delta ABC$ ,  $AB = AC$  and  $\angle B = 50^\circ$ .



Since,  $AB = AC$   
 $\Delta ABC$  is an isosceles triangle.

Hence,  $\angle B = \angle C$

$\angle B = 50^\circ$  (given)

$\Rightarrow \angle C = 50^\circ$

Hence, option B is the correct option.

**4. In  $\Delta ABC$ ,  $BC = AB$  and  $\angle B = 80^\circ$ . Then  $\angle A$  is equal to**

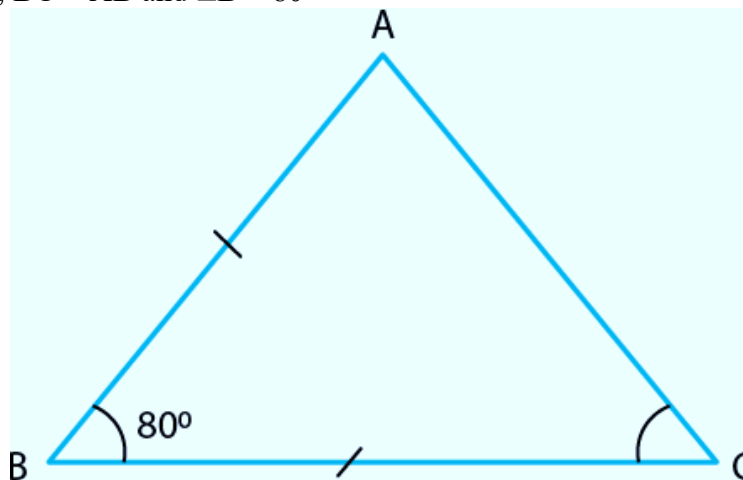
**(A)  $80^\circ$  (B)  $40^\circ$  (C)  $50^\circ$  (D)  $100^\circ$**

**Solution:**

**(C)  $50^\circ$**

Explanation:

Given:  $\Delta ABC$ ,  $BC = AB$  and  $\angle B = 80^\circ$



Since,  $BC = AB$

$\Delta ABC$  is an isosceles triangle.

Let,  $\angle C = \angle A = x$

$\angle B = 80^\circ$  (given)

We know that,

Using angle sum property,

Sum of interior angles of a triangle should be  $= 180^\circ$

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\Rightarrow x + 80^\circ + x = 180^\circ$$

$$\Rightarrow 2x = 180^\circ - 80^\circ$$

$$\Rightarrow 2x = 100^\circ$$

$$\Rightarrow x = 50^\circ$$

Therefore,  $\angle C = \angle A = 50^\circ$

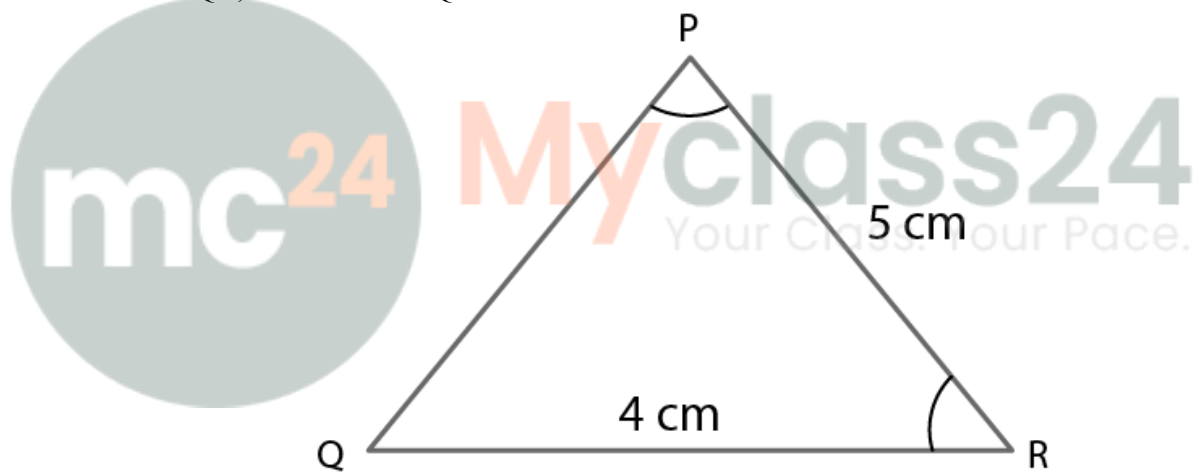
Hence, option C is the correct answer.

5. In  $\Delta PQR$ ,  $\angle R = \angle P$  and  $QR = 4$  cm and  $PR = 5$  cm. Then the length of  $PQ$  is

(A) 4 cm (B) 5 cm (C) 2 cm (D) 2.5 cm

**Solution:**

Given:  $\Delta PQR$ ,  $\angle R = \angle P$  and  $QR = 4$  cm and  $PR = 5$  cm



Since,  $\angle R = \angle P$

$\Delta PQR$  is an isosceles triangle.

Hence,  $PQ = QR$

$$\Rightarrow PQ = 4\text{cm}$$

Hence, option A is the correct answer.