

31. The measures of two angles of a triangle are in the ratio 3 : 7. If the sum of these two measures is equal to the measure of the third angle, then find the smallest angle.

एक त्रिभुज के दो कोणों की माप 3 : 7 के अनुपात में है। यदि इन दोनों मापों का योग तीसरे कोण की माप के बराबर है, तो सबसे छोटा कोण ज्ञात कीजिए।

(SSC CHSL MAINS 2023)

[A] 27°

[B] 18°

[C] 9°

[D] 36°

angles $\rightarrow$ $\textcircled{3} : 7$

$\textcircled{10} \xrightarrow{\times 9} 90^\circ$

#

32. If one angle of triangle PQR is greater than the sum of the other two, the triangle PQR will be:

यदि त्रिभुज PQR का एक कोण अन्य दो कोणों के योग से बड़ा है, तो त्रिभुज PQR होगा:

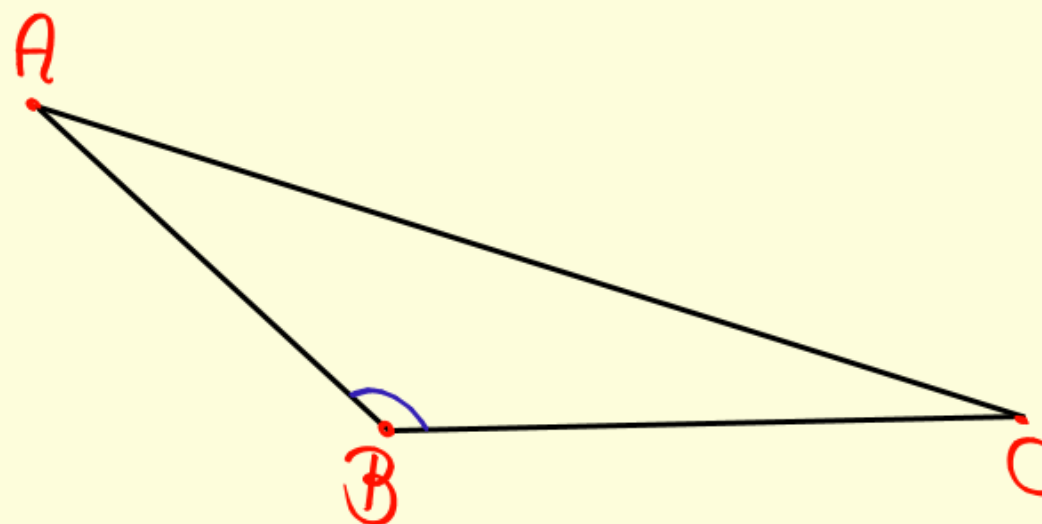
SSC CPO 2024

☒ [A] Obtuse angle

[B] Equilateral

[C] right angle

[D] Acute angle



$$B > A + C$$

33. If the ratio of the angles of a triangle is 18:31:43 then type of triangle is
यदि किसी त्रिभुज के कोणों का अनुपात 18:31:43 है तो त्रिभुज का प्रकार है

[A] acute.

[B] right.

[C] obtuse.

[D] isosceles ~~X~~

angles $\rightarrow 18 : 31 : \textcircled{43}$

$$\textcircled{43} < \textcircled{18} + \textcircled{31}$$



angles $\rightarrow 7 : 18 : \textcircled{25}$

$$\textcircled{25} = \textcircled{7} + \textcircled{18}$$

Right angle Δ





✕



34. If the two interior opposite angles of an exterior angle of a triangle are 35° and 65° , then the measurement of the exterior angle is:

यदि एक त्रिभुज के एक बाह्य कोण के दो सम्मुख अंतः कोण 35° और 65° है, तो बाह्य कोण की माप कितनी है?

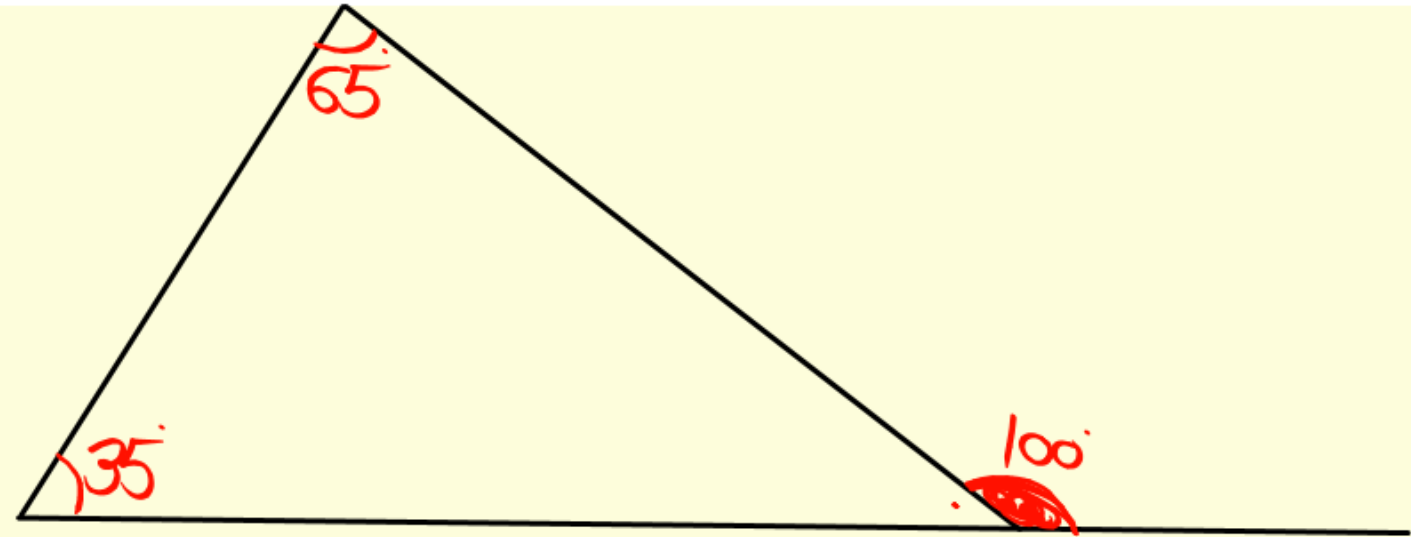
[A] 135°

[B] 125°

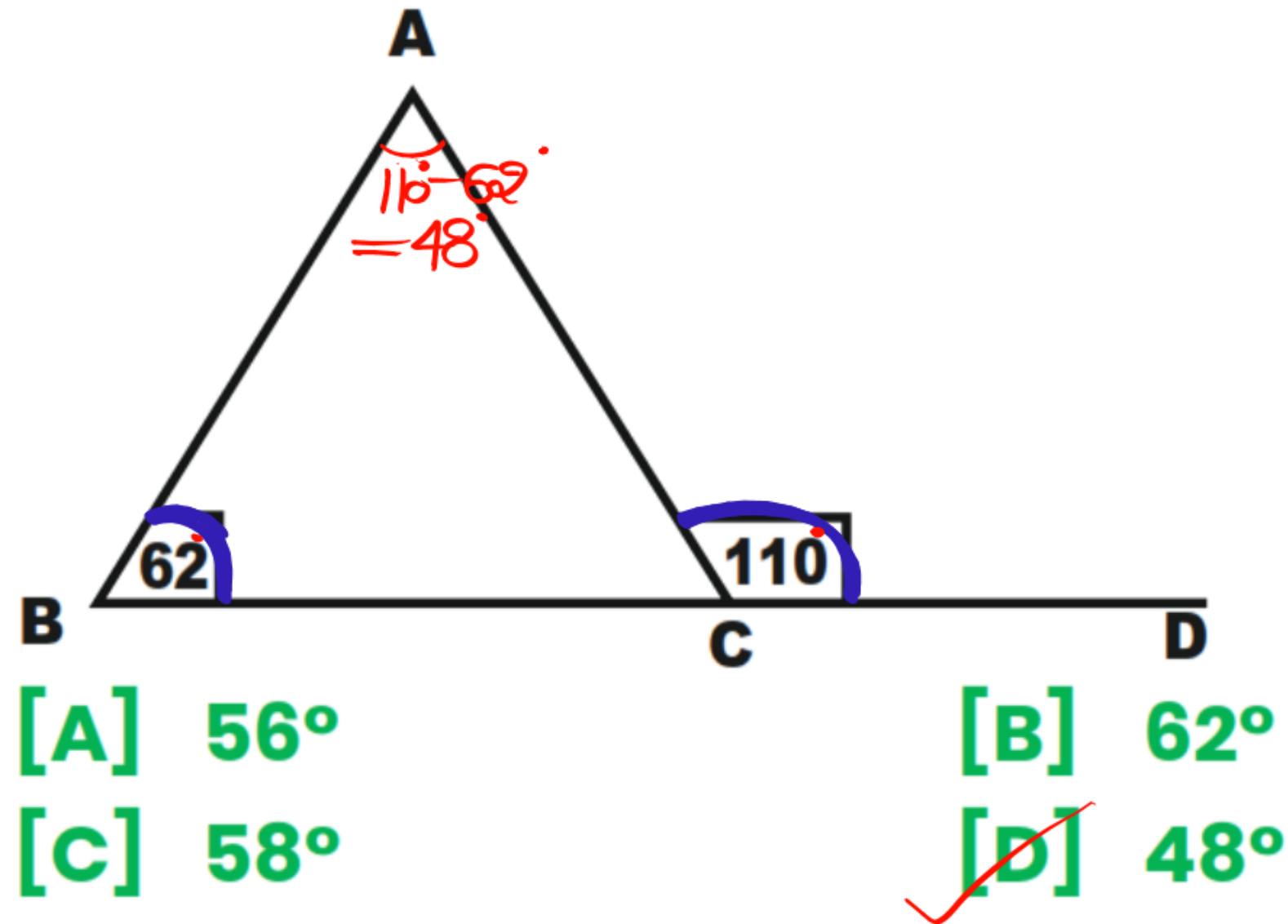
☒ [C] 100°

[D] 90°

$$35^\circ + 65^\circ$$



35. In the figure, the measure of angle $\angle BAC$ is:
चित्र में कोण $\angle BAC$ का माप है:



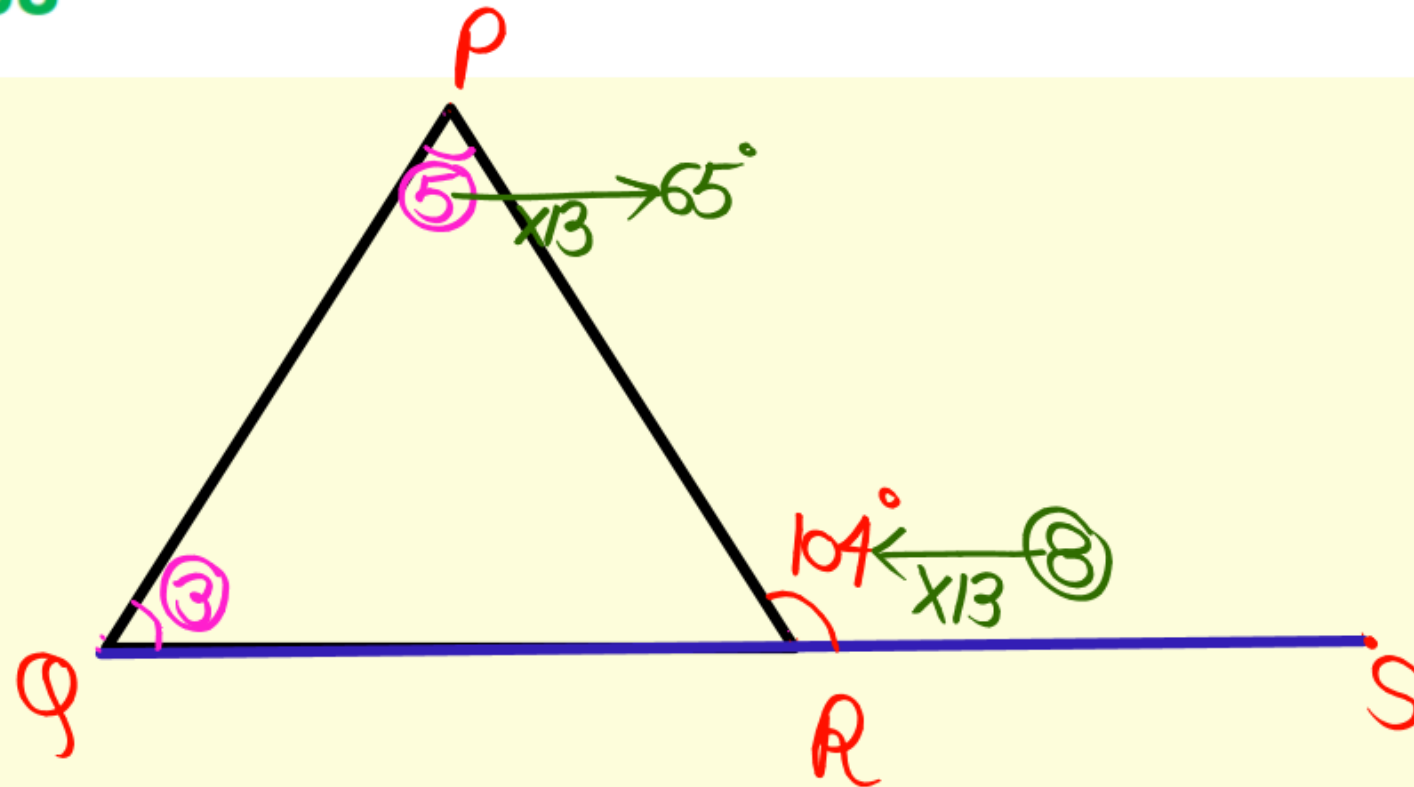
36. The side QR of a triangle PQR is extended to a point S. If $\angle PRS = 104^\circ$ and $\angle RQP = \frac{3}{5} \angle QPR$, then the value of $\angle QPR$ is:

त्रिभुज PQR की भुजा QR को बिन्दु S तक बढ़ाया जाता है। यदि $\angle PRS = 104^\circ$ और $\angle RQP = \frac{3}{5} \angle QPR$ है, तो $\angle QPR$ का मान ज्ञात करें।

[A] 65°
[C] 45°

[B] 55°
[D] 58°

$$\frac{\angle Q}{\angle P} = \frac{3}{5}$$

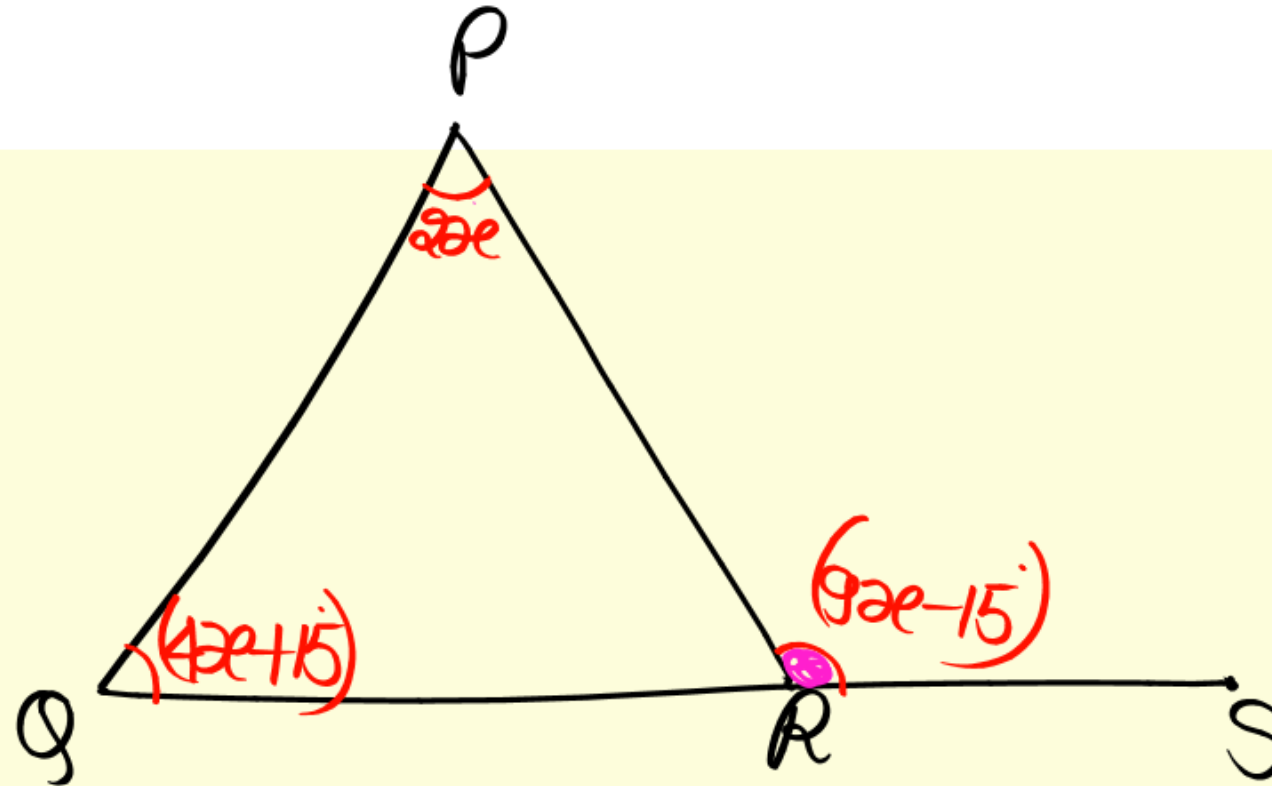


24. In a triangle PQR, QR is produced to S. If $\angle PRS = (9x - 15)^\circ$, $\angle RPQ = (2x)^\circ$, and $\angle PQR = (4x + 15)^\circ$, what is the value of x?

एक त्रिभुज PQR में, QR को S तक बढ़ाया जाता है। यदि $\angle PRS = (9x - 15)^\circ$, $\angle RPQ = (2x)^\circ$, और $\angle PQR = (4x + 15)^\circ$, तो x का मान क्या होगा?

☒ [A] 10
☐ [C] 55

☐ [B] 75
☐ [D] 20



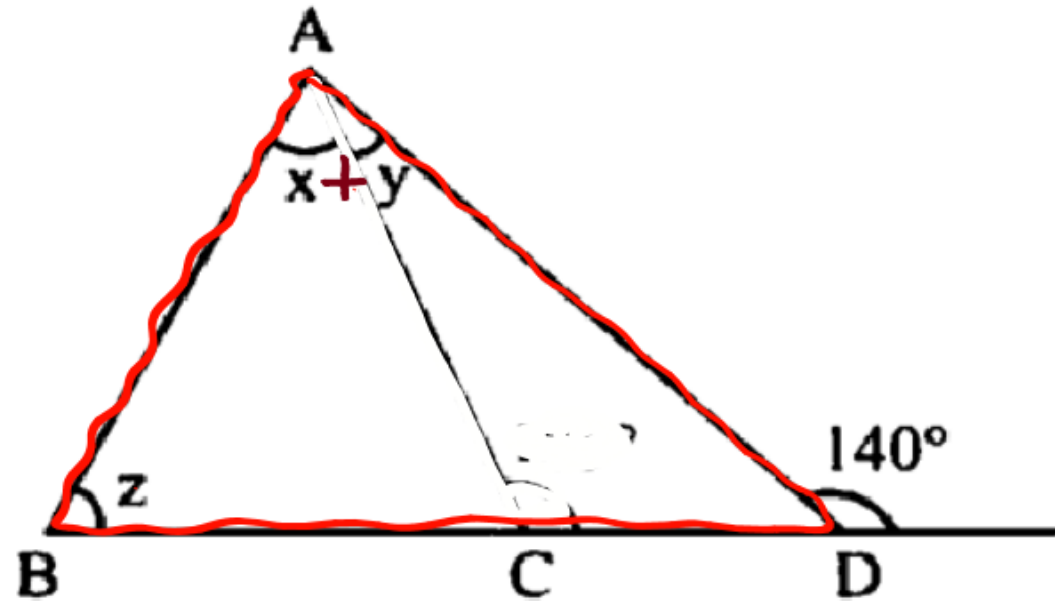
$$6x + 15 = 9x - 15$$

$$30 = 3x$$

$$10 = x$$

37. In the given figure, what is the value (in degrees) of $(x + y + z)$?
दी गई आकृति में, $(x + y + z)$ का मान (डिग्री में) क्या है?

[SSC MTS 2025]



[A] 135

[C] 140

[B] 130

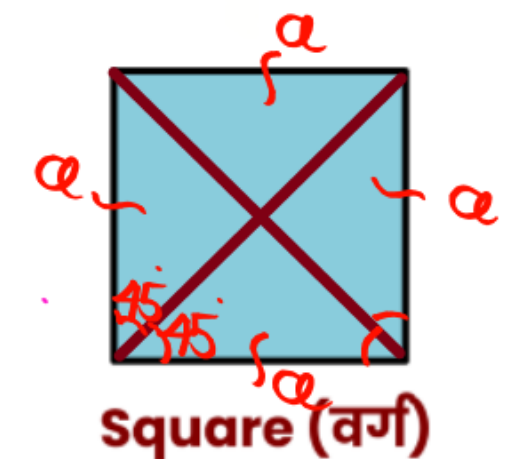
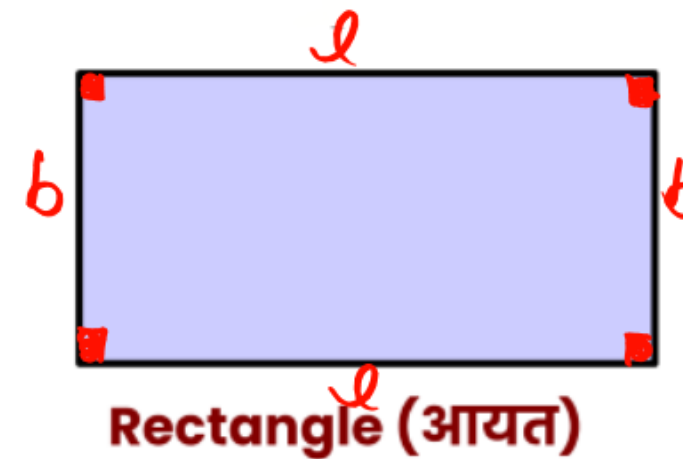
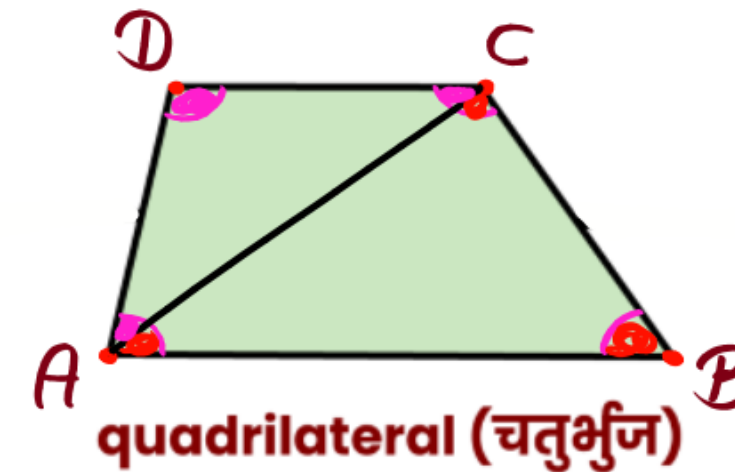
[D] 150

QUADRILATERAL (चतुर्भुज)

"A quadrilateral is a polygon having four sides, four vertices, and four angles."

"चार भुजाओं, चार शीर्षों (vertices) तथा चार कोणों वाला बहुभुज चतुर्भुज कहलाता है।"

$$\angle A + \angle B + \angle C + \angle D = 360^\circ$$



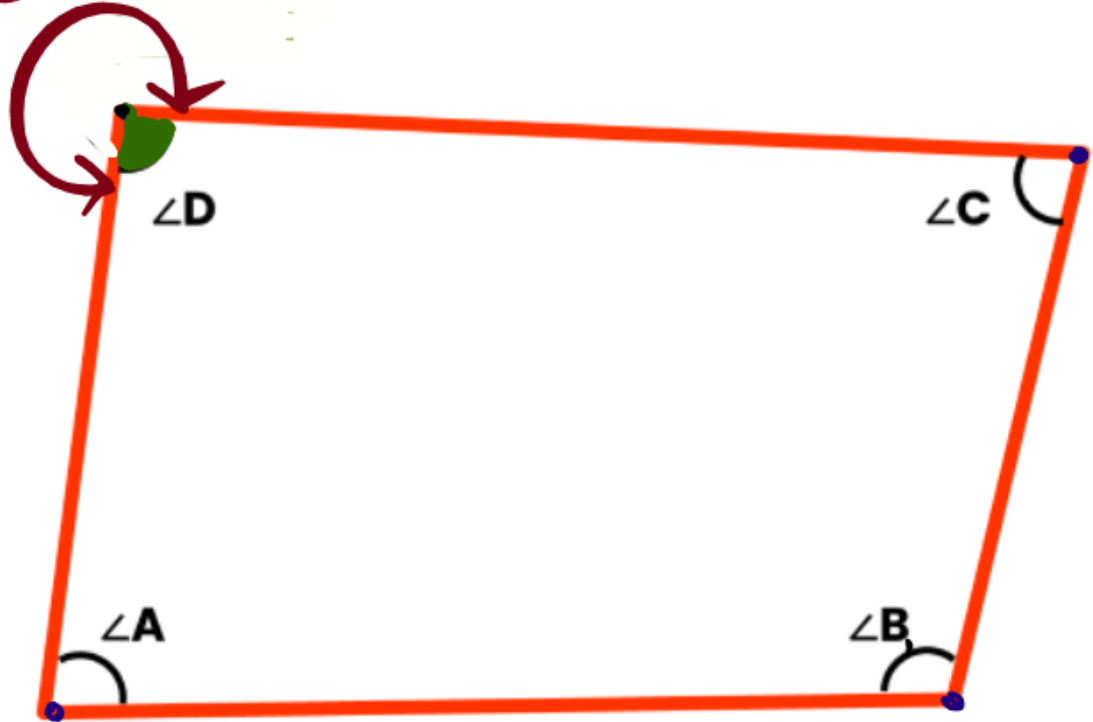
IN ANY QUADRILATERAL



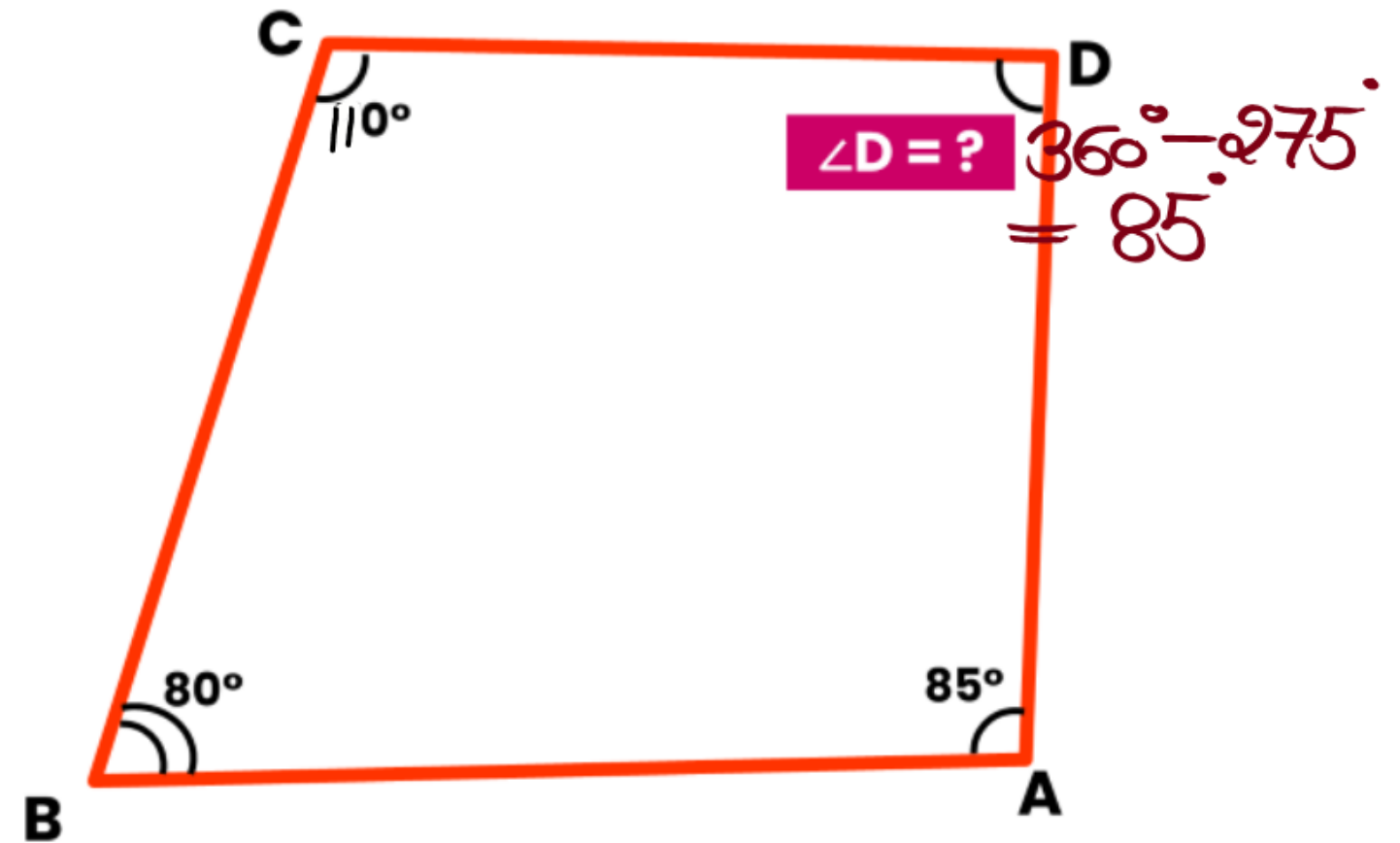
EXAMPLE

Find the value of D.
D का मान ज्ञात करें।

$$360^\circ - D = \angle A + \angle B + \angle C$$



$$\begin{aligned}\angle A + \angle B + \angle C + \angle D &= 360^\circ \\ \angle A + \angle B + \angle C &= 360^\circ - \angle D\end{aligned}$$

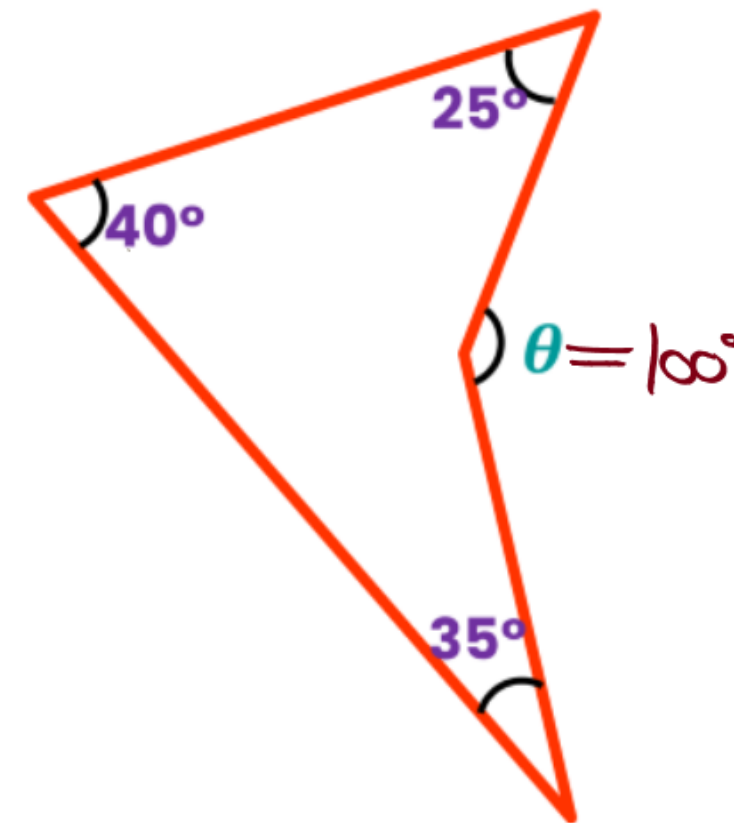
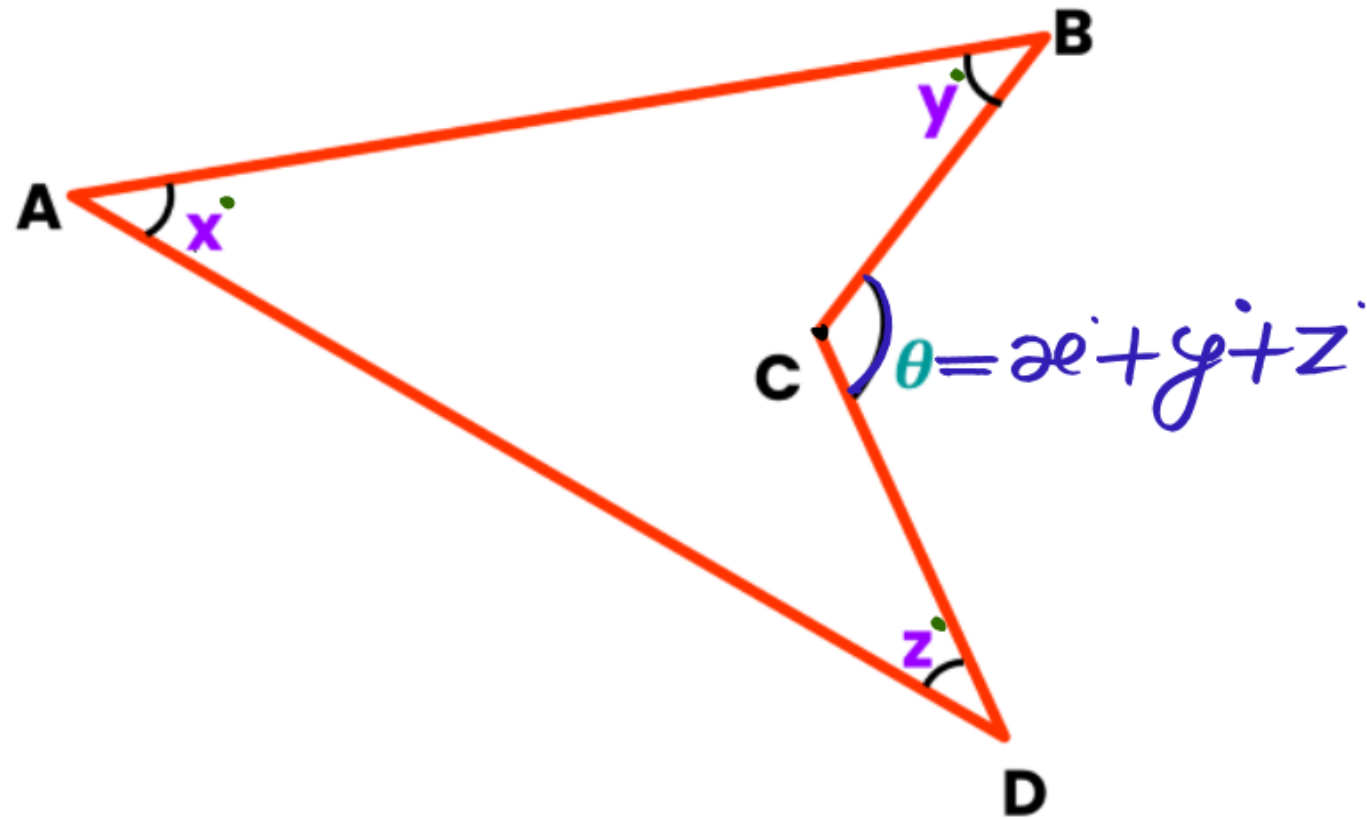


Scissors (कैंची) Figure Concept

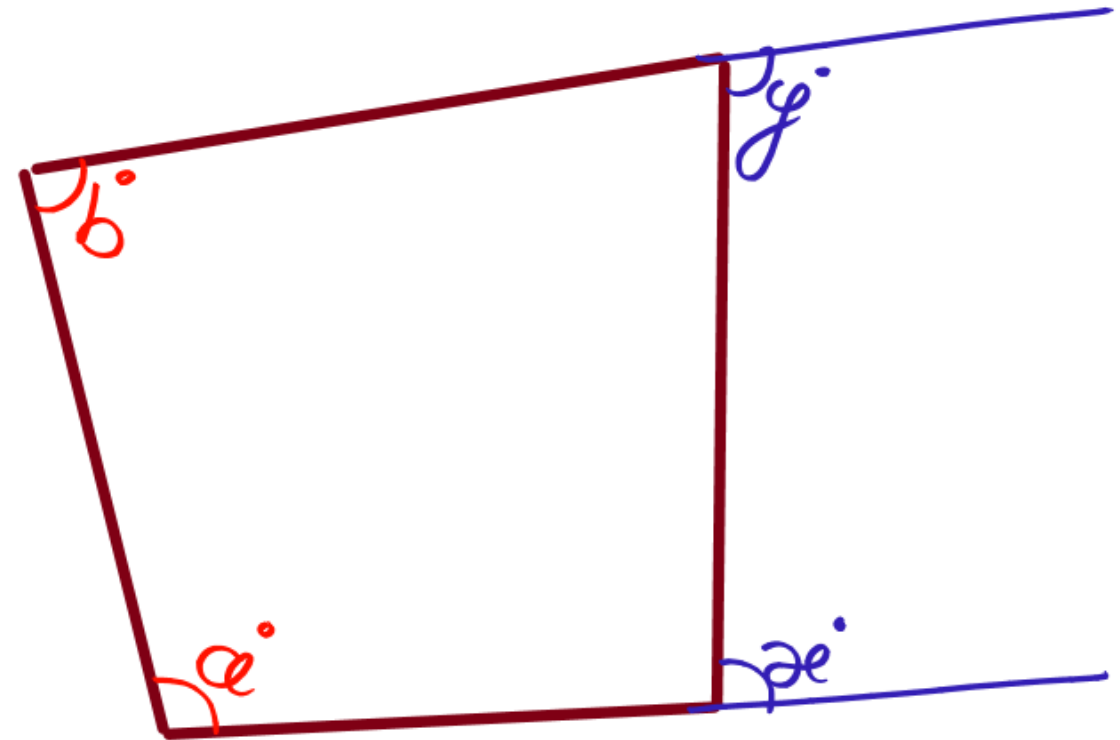
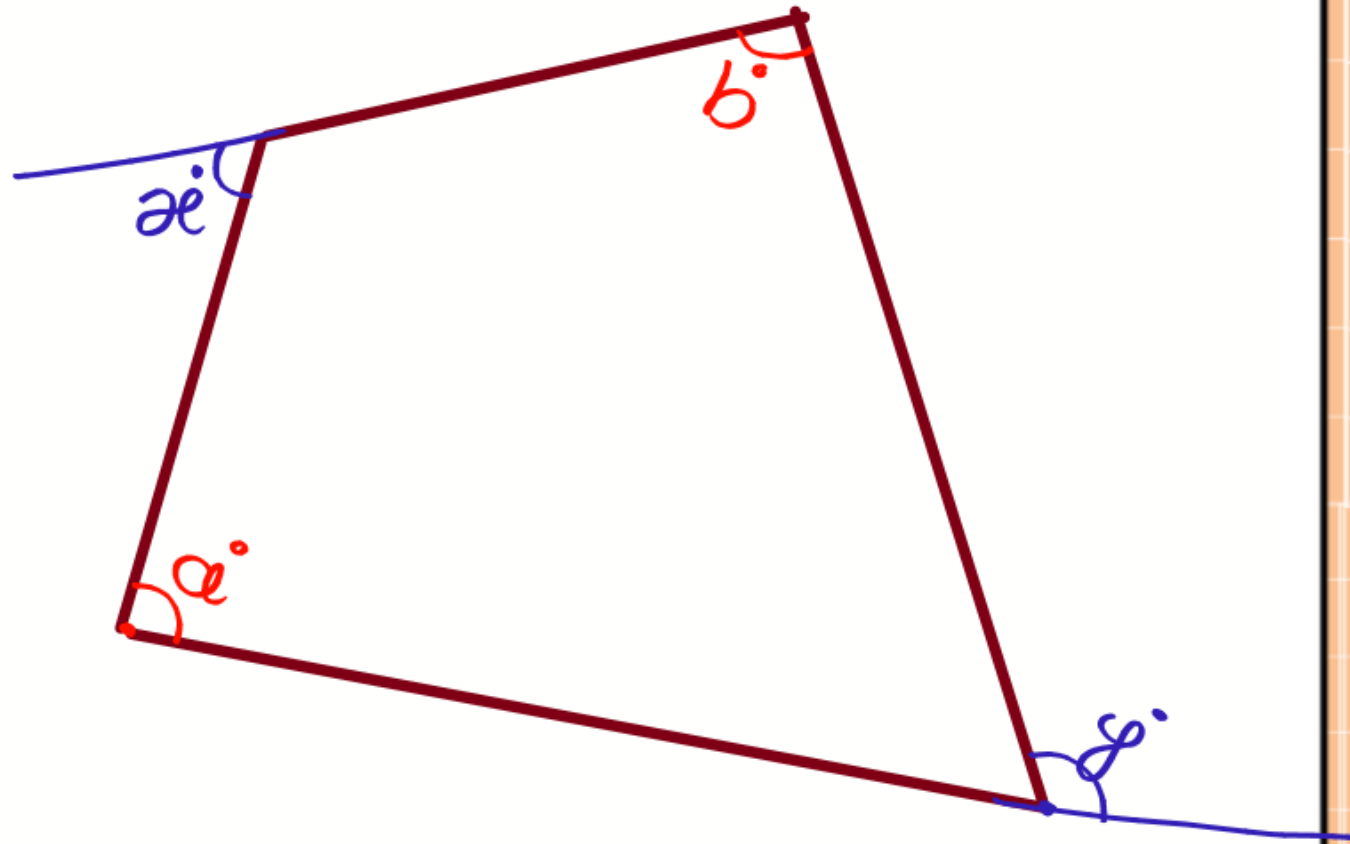


EXAMPLE

Find the value of x .
 x का मान ज्ञात करें।

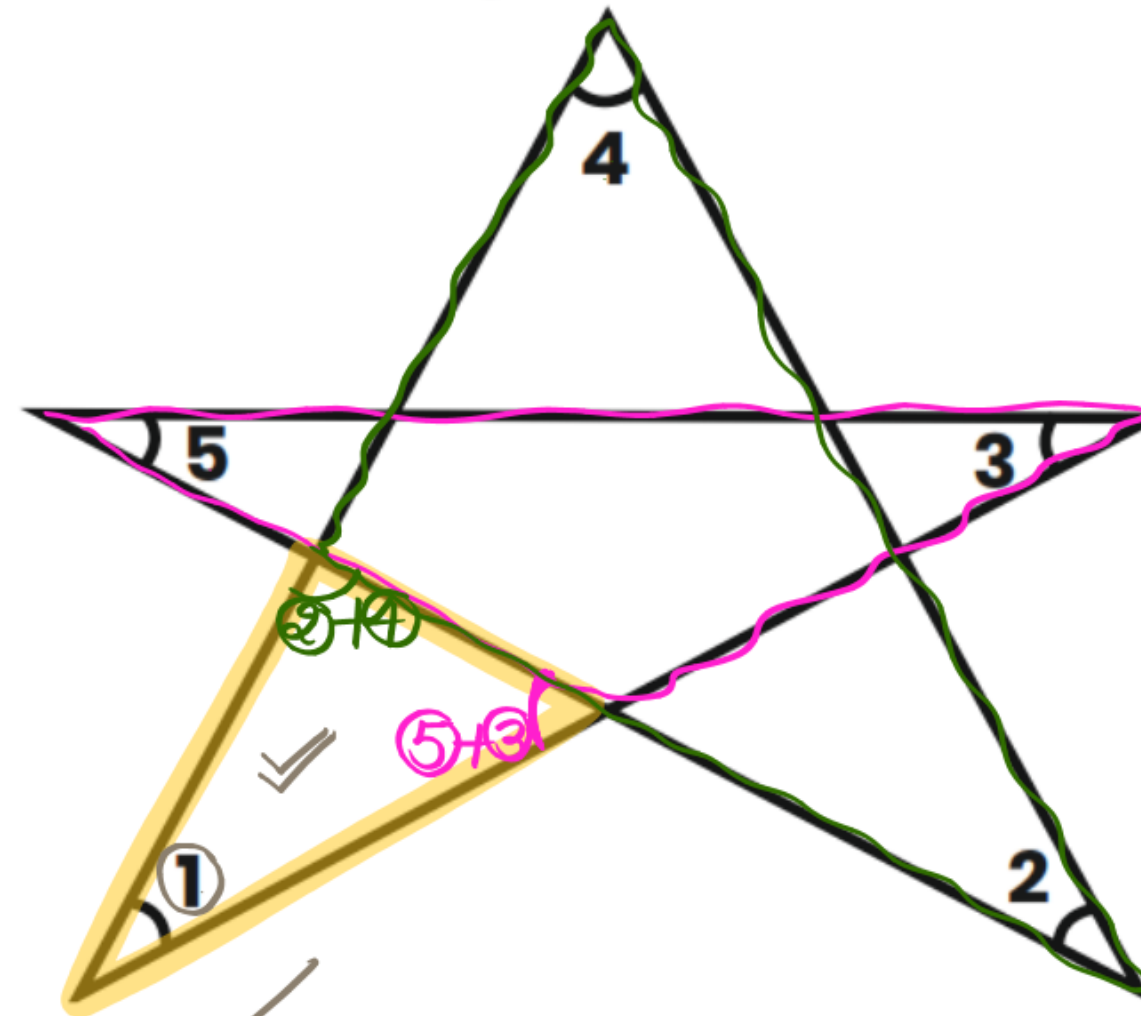


IN ANY QUADRILATERAL



$$a^\circ + b^\circ = \alpha^\circ + \gamma^\circ$$

38. In the given figure, find $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 = ?$
दिए गए आकृति में, $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5$ ज्ञात करें?



[A] 90°

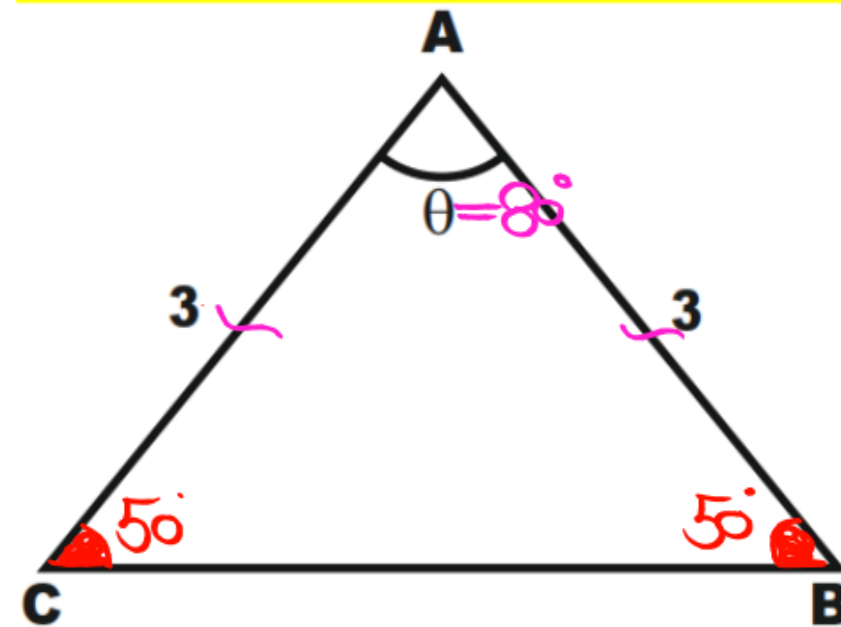
[C] 180°

[B] 120°

[D] 360°

39. In the given figure $\triangle ABC$, if $\theta = 80^\circ$, the measure of each of the other two angles will be:
दी गई आकृति में, $\triangle ABC$ में, यदि $\theta = 80^\circ$ है, तो अन्य दो में से प्रत्येक कोण की माप क्या होगी? कोणों का माप होगा:

(SSC SELECTION POST XII HIGHER SECONDARY LEVEL)



[A] 60°

[C] 80°

[B] 40°

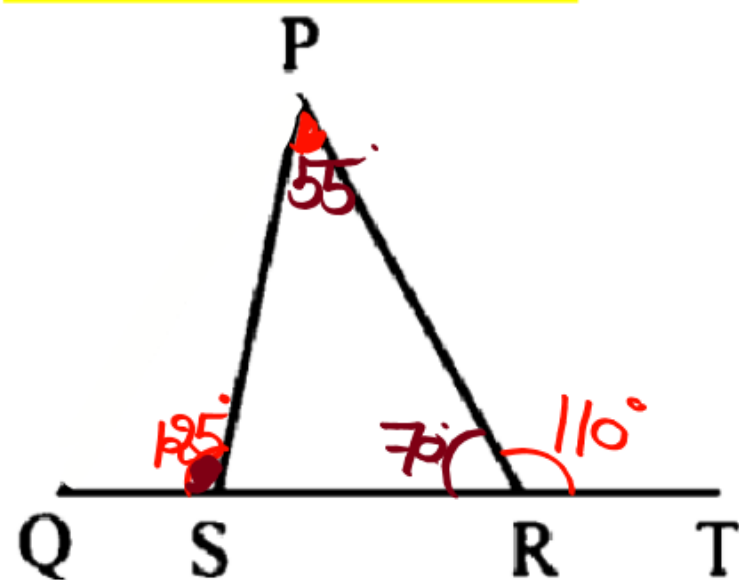
☒ [D] 50°

$$\frac{100^\circ}{2}$$

40. In the given figure, angle PSQ = 125 degrees and angle PRT = 110 degrees. What is the value (in degrees) of angle SPR?

दी गई आकृति में, कोण PSQ = 125 डिग्री तथा कोण PRT = 110 डिग्री है। कोण SPR का मान (डिग्री में) क्या है?

[SSC MTS 2025]



[A] 45

[C] 40

[B] 35

[D] 55

In quadrilateral ABCD, the measures of three interior angles are $\angle A = 98^\circ$, $\angle B = 82^\circ$, and $\angle C = 110^\circ$. Determine the measure of $\angle D$.

एक चतुर्भुज ABCD में, तीन आंतरिक कोणों के माप $\angle A = 98^\circ$, $\angle B = 82^\circ$ और $\angle C = 110^\circ$ हैं। $\angle D$ का माप ज्ञात कीजिए।

(SSC CHSL Mains 2025)

[A] 60°

[C] 80°

~~[B]~~ 70°

[D] 90°

$$\begin{aligned}\angle D &= 360^\circ - 290^\circ \\ &= 70^\circ\end{aligned}$$



41. In a quadrilateral PQRS, if the sum of measures of angle $\angle Q$ and $\angle S$ is 150° while the measures of angles $\angle P$ & $\angle R$ in the ratio 4:3, then the measure of $\angle R$ will be?

एक चतुर्भुज PQRS में, यदि कोण $\angle Q$ और $\angle S$ के मापों का योग 150° है जबकि कोणों $\angle P$ और $\angle R$ का माप 4:3 के अनुपात में है, तो $\angle R$ का माप क्या होगा?

(RRB ALP 2024)

[A] 120°

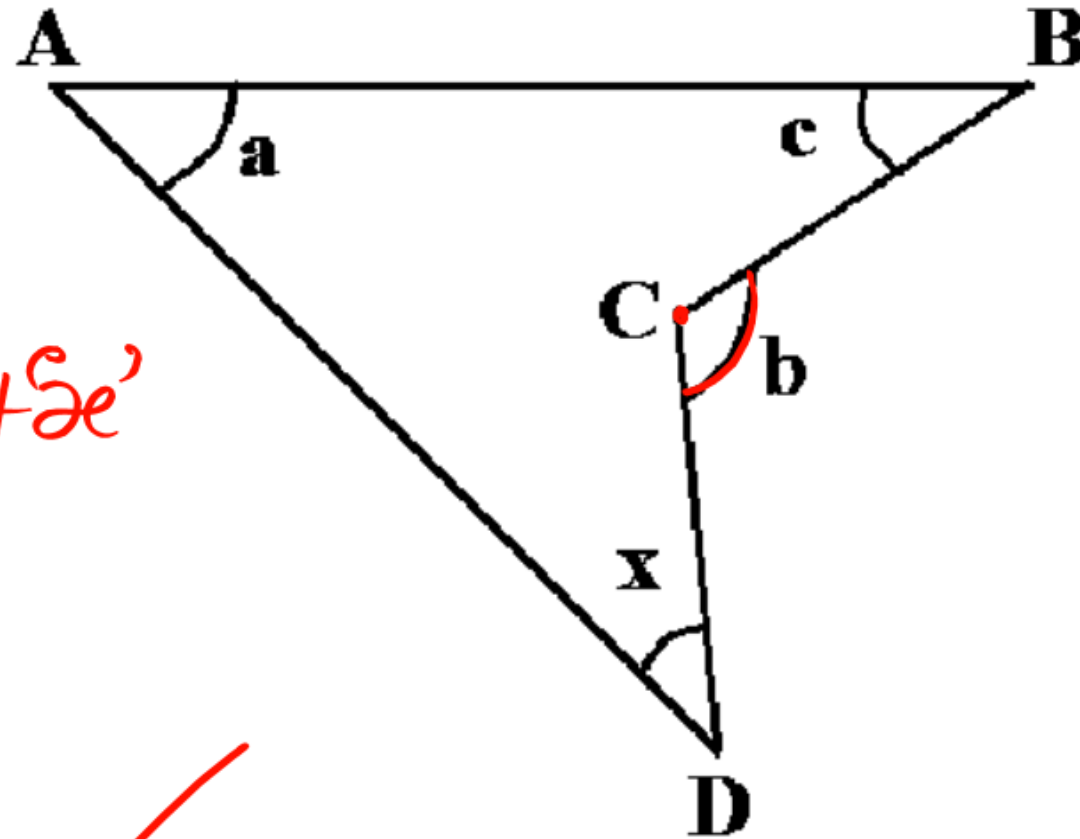
[B] 90°

[c] 210°

[D] 50°

$\angle P + \angle R = 210^\circ$
 $4 : 3$

43. What is the value of x in the fig given below?
नीचे दिए गए चित्र में x का मान क्या होगा।



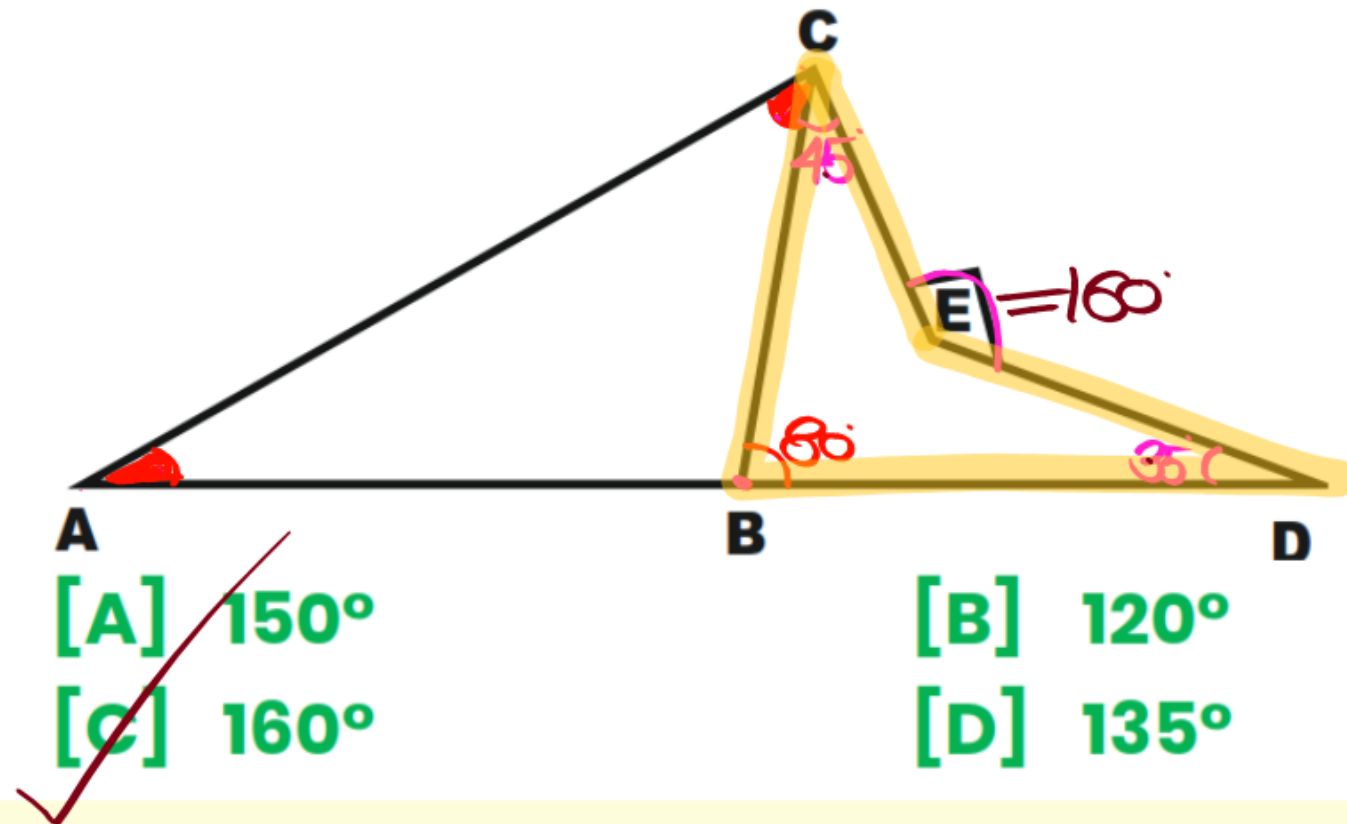
$$b = a + c + x$$

☒ [A] $b - a - c$
[C] $b + a - c$

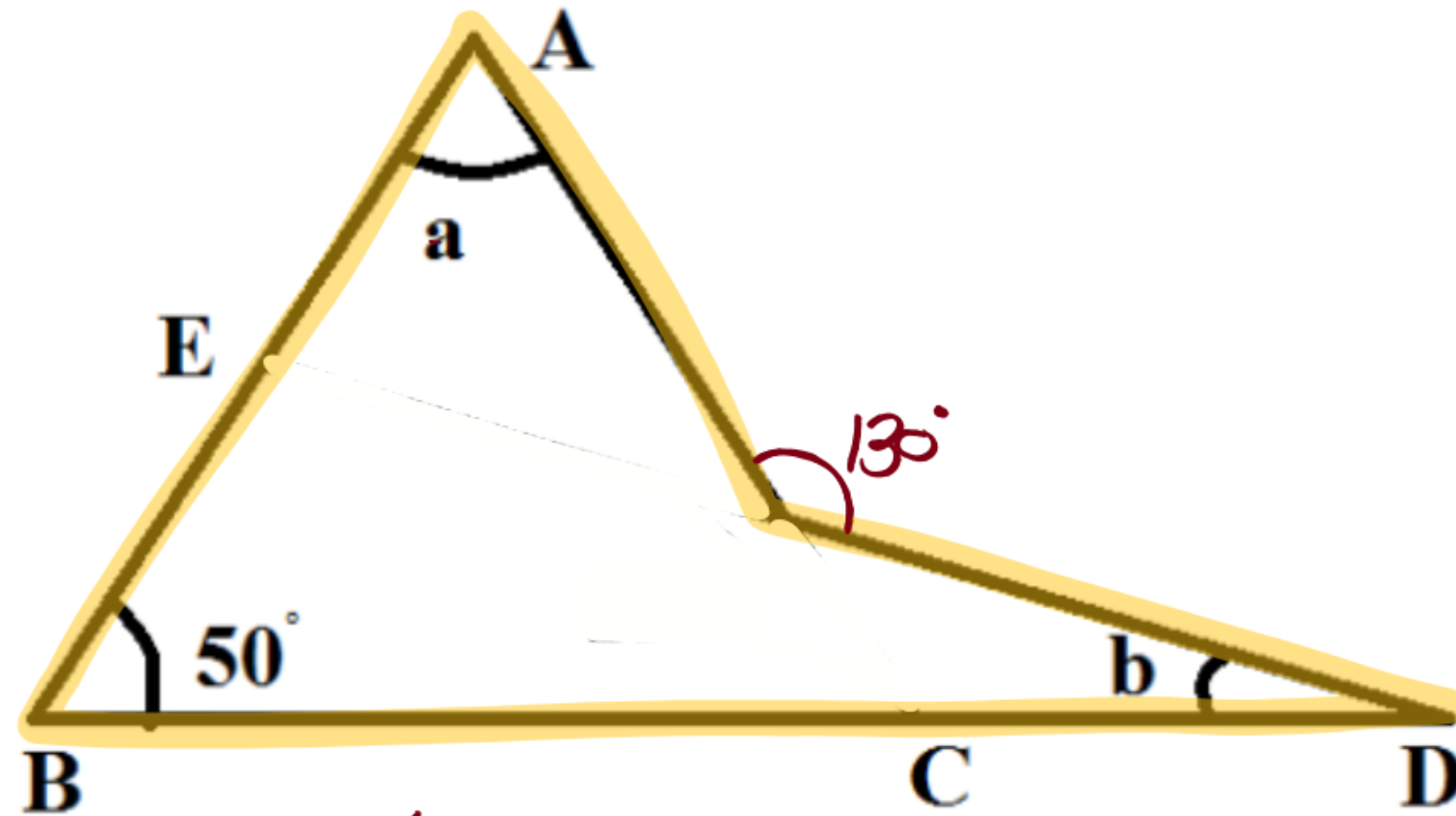
[B] $b - a + c$
[D] $\pi - (a + b - c)$

44. If in the given figure, $\angle ACB + \angle BAC = 80^\circ$; $\angle BDE = 35^\circ$; $\angle BCE = 45^\circ$, then the marked angle $\angle CED$ is:

यदि दिए गए चित्र में $\angle ACB + \angle BAC = 80^\circ$; $\angle BDE = 35^\circ$; $\angle BCE = 45^\circ$ है, तो चिह्नित कोण $\angle CED$ का मान _____ होगा।



45. Find the value of $a+b$? / $a+b$ का मान क्या होगा?



[A] ~~80°~~

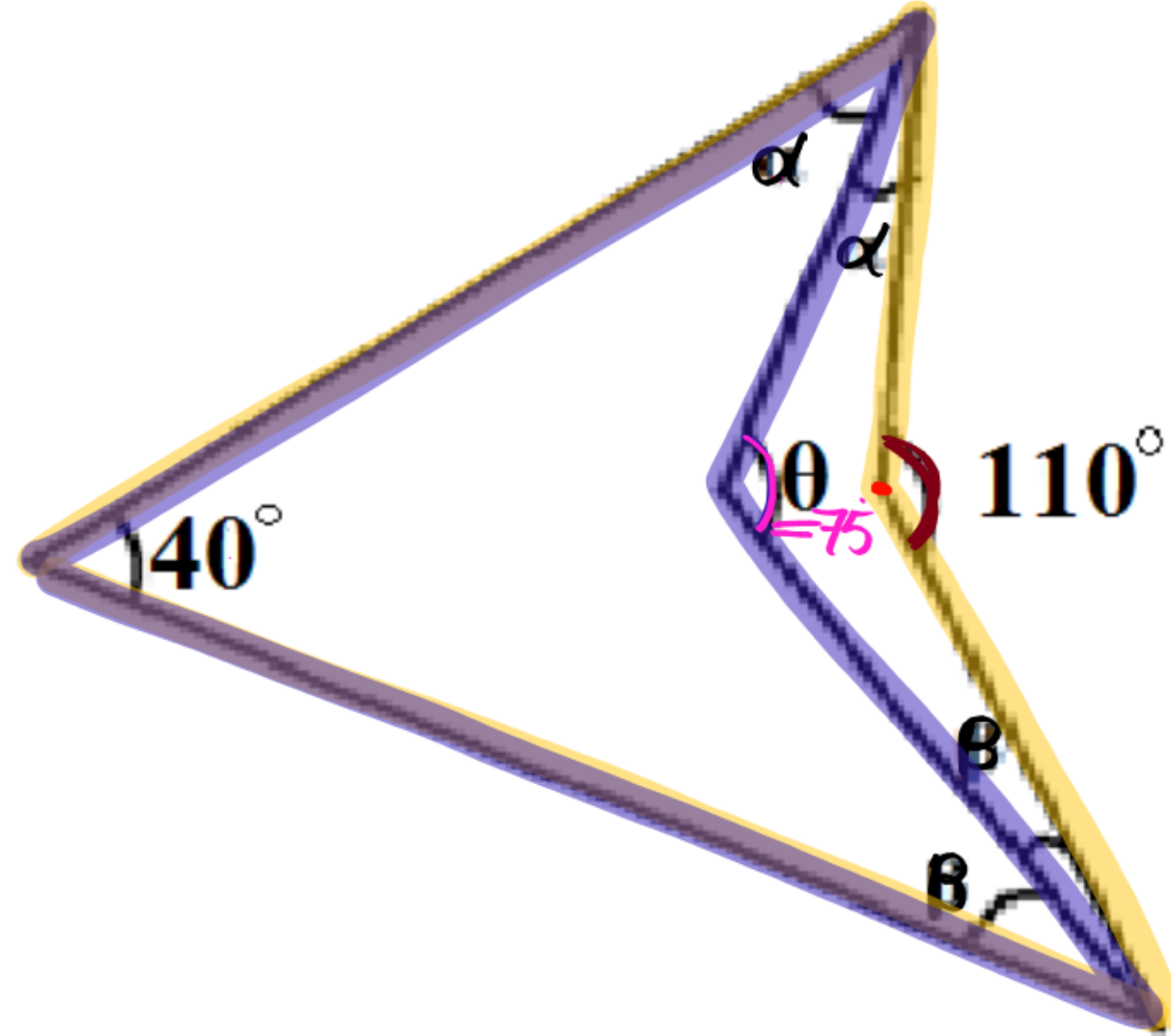
[C] 90°

$$a+b=80^\circ$$

[B] 180°

[D] 120°

46. Find the value of θ ? / θ का मान निकालिये।



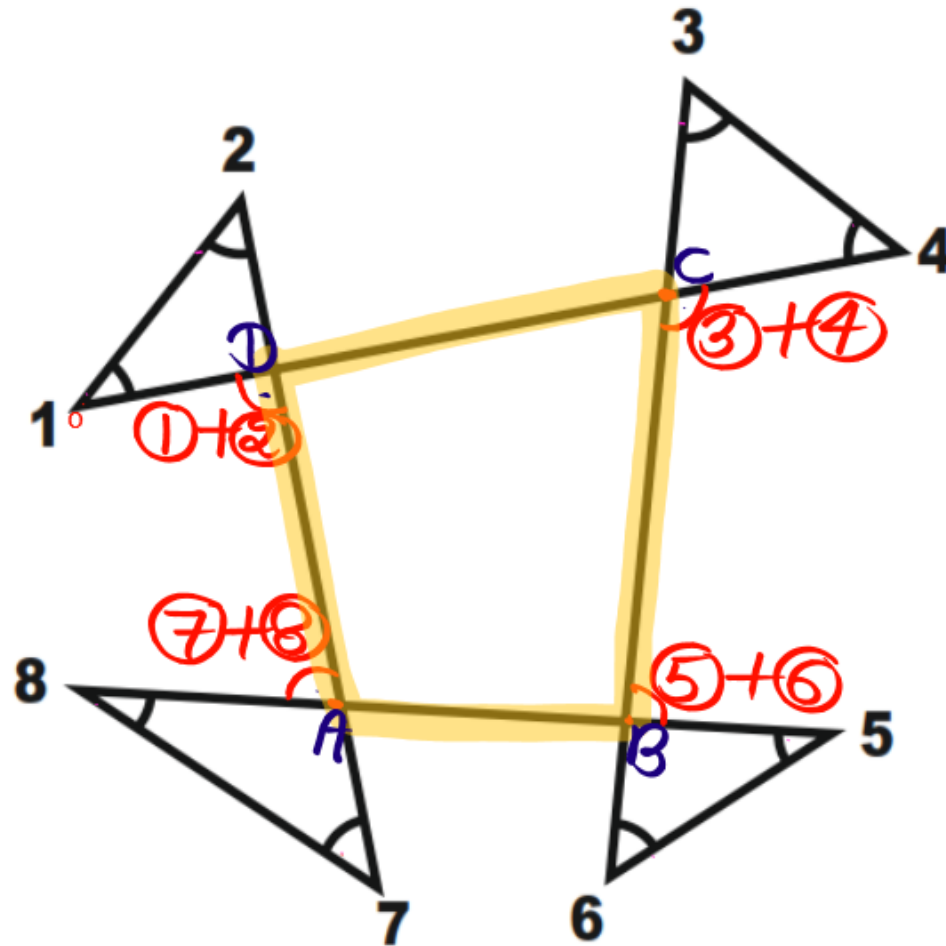
$$\theta = \frac{40^\circ + 110^\circ}{2} = 75^\circ$$

[A] 60°
[C] 75°

$$\alpha + \beta = 70^\circ$$
$$\alpha + \beta = 35^\circ$$

[B] 70°
[D] CND

47. Angles are shown in the given figure. What is value of $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 + \angle 6 + \angle 7 + \angle 8$?
दिए गए चित्र में कोण दिखाए गए हैं। $\angle 1 + \angle 2 + \angle 3 + \angle 4 + \angle 5 + \angle 6 + \angle 7 + \angle 8$ का मान क्या है?



[A] 240°
[C] 540°

[B] 360°
[D] 720°