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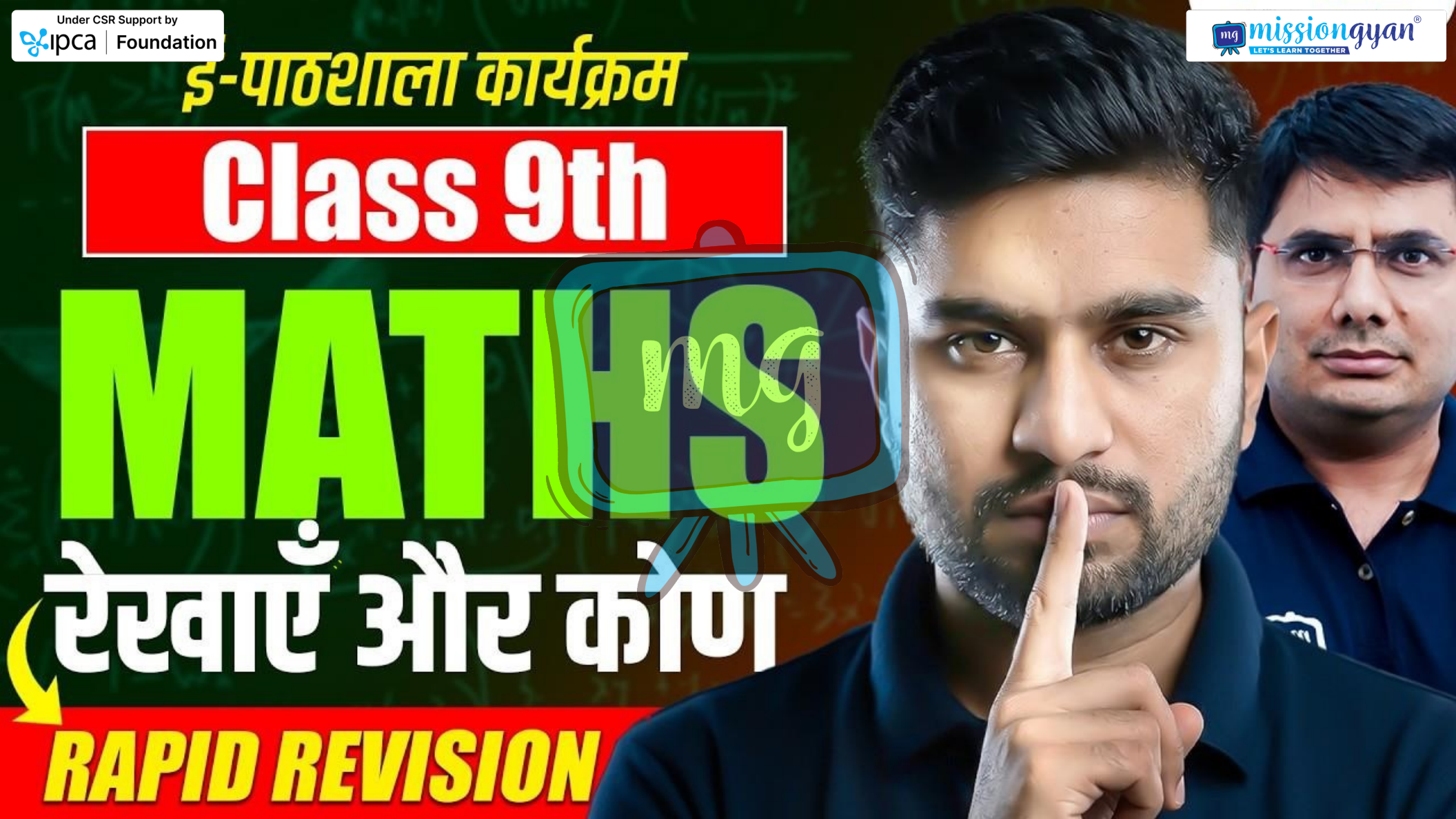
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ई-पाठशाला कार्यक्रम

Class 9th

MATHS

रेखाएँ और कोण



RAPID REVISION

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Q6. आकृति में, POQ एक रेखा है। किरण OR रेखा PQ पर लम्ब है। किरणों OP और OR के बीच में OS एक अन्य किरण है। सिद्ध कीजिए:

$$\angle ROS = \frac{1}{2}(\angle QOS - \angle POS)$$

$OR \perp PQ$

$\angle ROQ = 90^\circ, \angle ROP = 90^\circ$

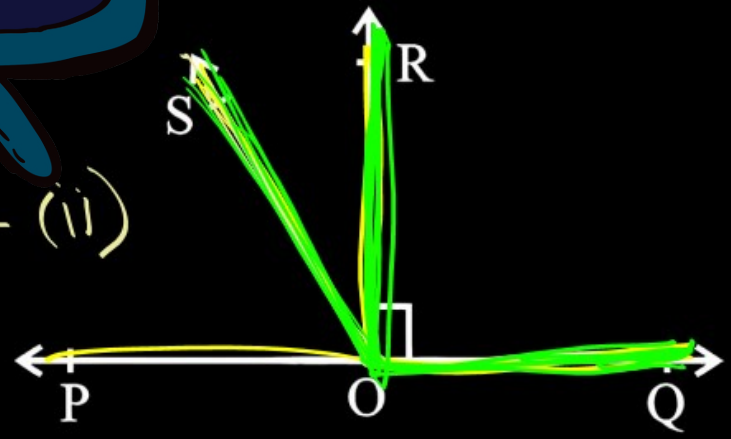
$\Rightarrow \angle ROQ = \angle ROP$ — (i)

आकृति से,

$\angle ROP = \angle ROS + \angle POS$

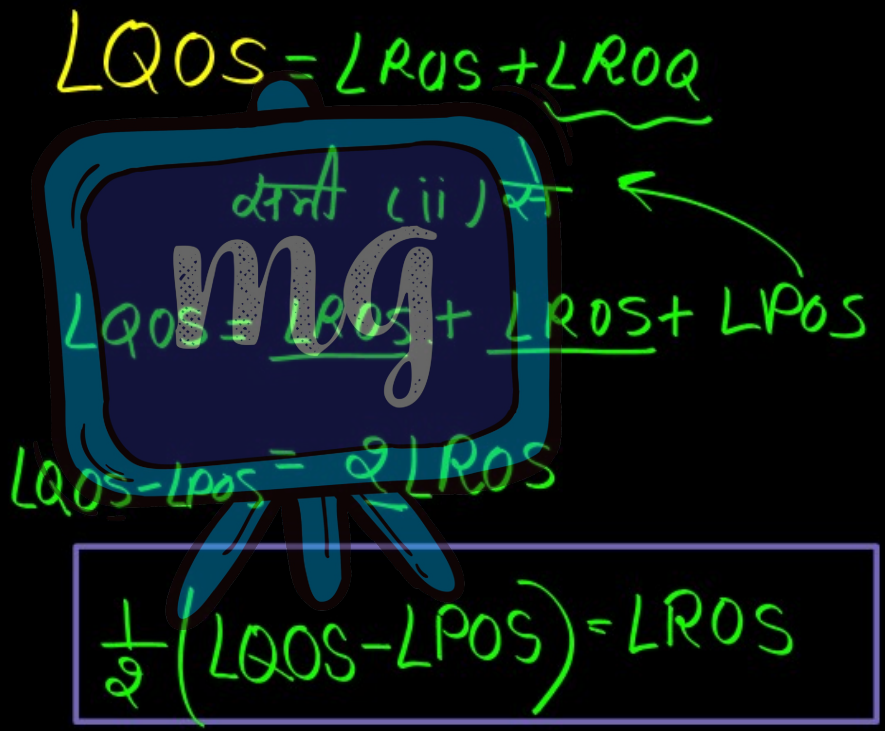
समी (i) से

$\boxed{\angle ROQ = \angle ROS + \angle POS}$ — (ii)



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Q7. आकृति में, यदि PQ || RS, ∠MXQ = 135° और ∠MYR = 40° है, तो ∠XMY ज्ञात कीजिए।

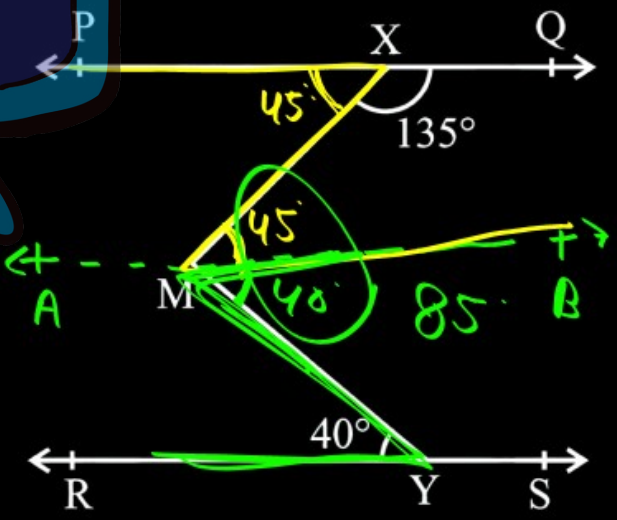
रचना :-

रेखा AB जो M से गुजरती है और AB || PQ

PQ || RS

⇒ AB || RS

180 − 135 = 45



∠XMY = 85

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Q8. आकृति में, AB || CD और CD || EF है। साथ ही, EA ⊥ AB है। यदि ∠BEF = 55° है, तो x, y और z के मान ज्ञात कीजिए।

AB || CD

CD || EF

⇒ AB || EF

∠BAE + ∠FEA = 180° (अंतः कोण)

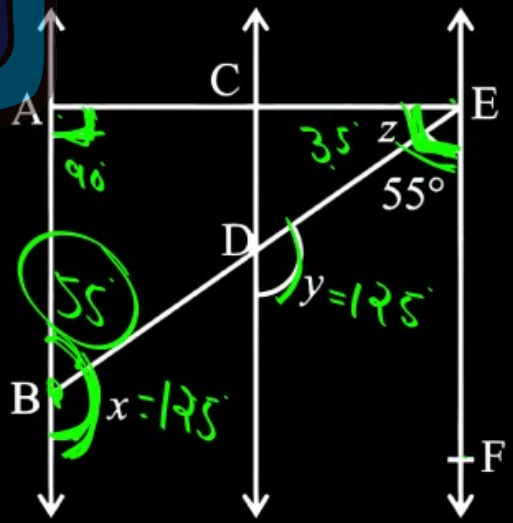
90° + ∠FEA = 180°

∠FEA = 90°

∠AEB + ∠BEF = 90°

z + 55° = 90°

z = 35°



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$90 + 35 + \angle ABE = 180$

$\angle ABE = 180 - 125$

$\angle ABE = 55$

$x = 180 - 55$

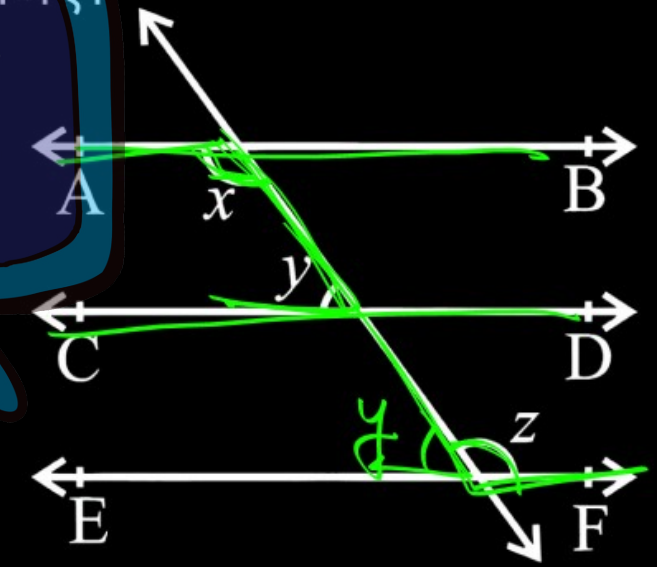
$x = 125$

$x = y = 125$ (संगत कोण)

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Q9. आकृति में, यदि AB || CD, CD || EF और y : z = 3 : 7 है, तो x का मान ज्ञात कीजिए।



y : z = 3 : 7

y + z = 180 (रैखिक युग्म)

$y = \frac{3}{10} \times 180 = 54$

$z = \frac{7}{10} \times 180 = 126$

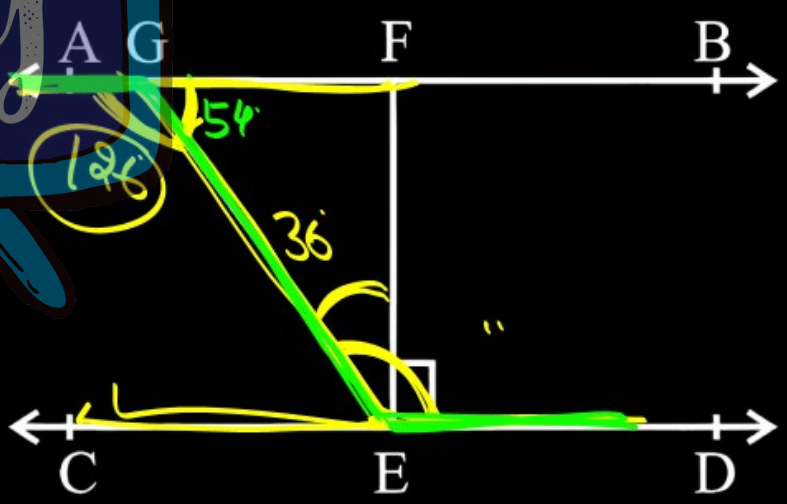
x + y = 180

x = 180 − 54 = 126

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Q10. आकृति में, यदि AB || CD, EF ⊥ CD और ∠GED = 126° है, तो ∠AGE, ∠GEF और ∠FGE ज्ञात कीजिए।



AB || CD

EF ⊥ CD

∠GED = 126°

∠GEF + ∠FED = 126°

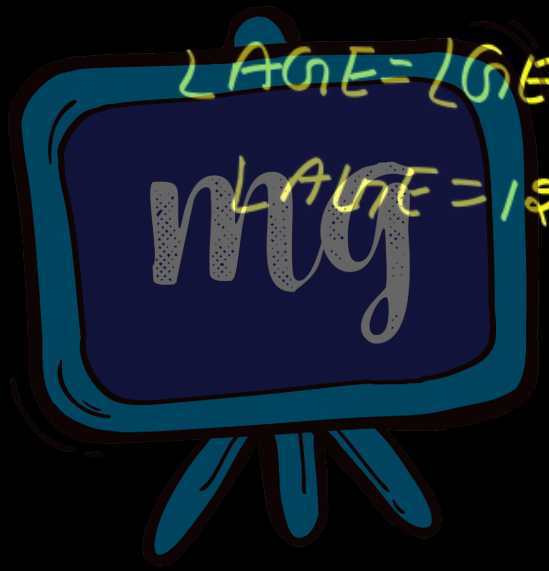
∠GEF + 90° = 126°

∠GEF = 126° − 90°

∠GEF = 36°

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$\angle AOE = \angle OED$ (एकान्तर कोण)

$\angle AOE = 126^\circ$

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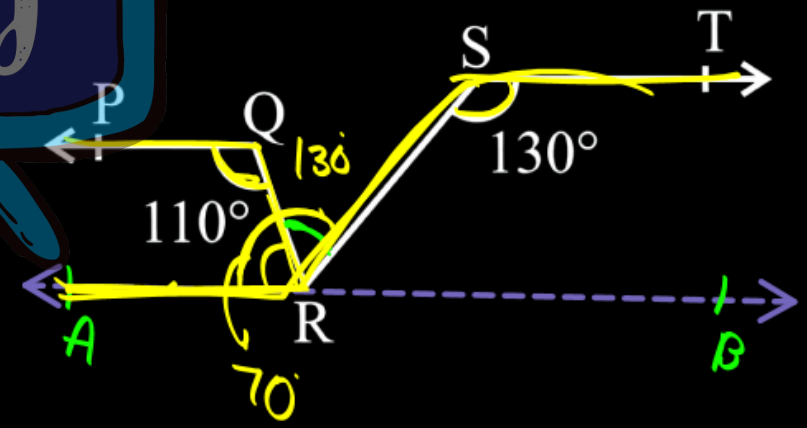
PQ || ST

Q11. आकृति में, यदि PQ || ST, ∠PQR = 110° और ∠RST = 130° है, तो ∠QRS ज्ञात कीजिए।

रचना: रेखा AB, बिन्दु R से गुजरती है, AB || PQ

PQ || ST

⇒ AB || ST



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$\angle PQR + \angle QRA = 180^\circ$

$\angle QRA = 180^\circ - 110^\circ$

$= 70^\circ$

$\angle TSR = \angle ARS = 130^\circ$

$\angle ARQ + \angle QRS = 130^\circ$

$\angle QRS = 130^\circ - 70$

$= 60^\circ$

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Q12. आकृति में, यदि AB || CD, ∠APQ = 50° और ∠PRD = 127° है, तो x और y ज्ञात कीजिए।

