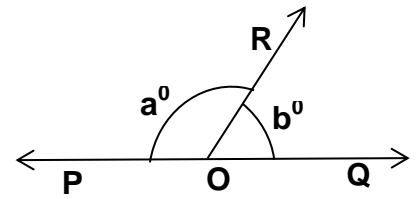
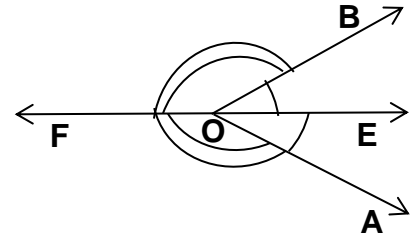


CLASS IX
LINES AND ANGLES

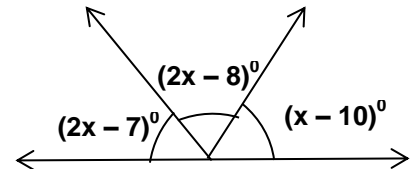
1. In the given figure, $\angle POR$ and $\angle QOR$ form a linear pair. If $a - b = 70^\circ$, find the value of "a" and "b".



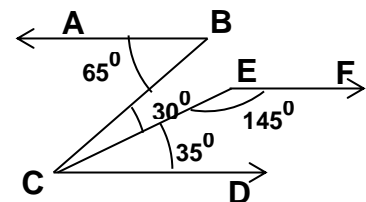
2. Ray OE bisects $\angle AOB$ and OF is the ray opposite to OE. Show that $\angle FOB = \angle FOA$.



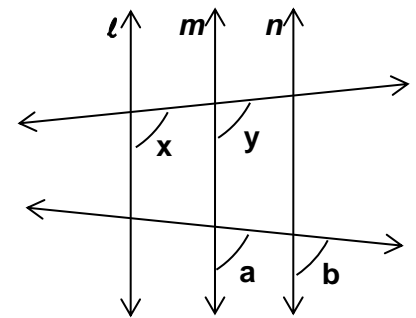
3. In the given figure, find the value of "x".



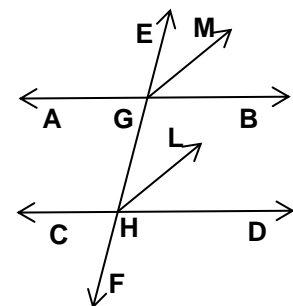
4. In the given figure, prove that $AB \parallel EF$.



5. In the given figure, if $x = y$ and $a = b$, prove that line $l \parallel$ line n .

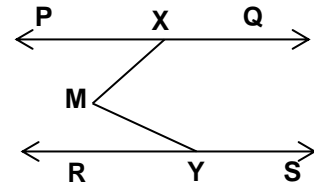


6. In the given fig, EF is a transversal to two parallel lines AB and CD, GM and HL are the bisectors of the corresponding angles EGB and EHD. Prove that $GM \parallel HL$.



7. Prove That two lines that are respectively perpendicular to two parallel lines are parallel to each other.

8. In the given figure, if $PQ \parallel RS$, $\angle MXQ = 135^\circ$ and $\angle MYR = 40^\circ$, find $\angle XMY$.

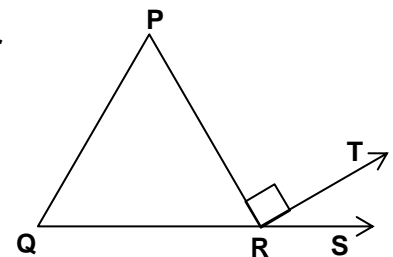


9. In $\triangle ABC$, the bisectors of $\angle ABC$ and $\angle BCA$ intersect each other at the point O. Prove that $\angle BOC = 90^\circ + \frac{1}{2} \angle A$.

10. One of the angles of the triangle is 65° . Find the remaining two angles if their difference is 25° .

11. Side BC of a $\triangle ABC$ is produced in both the directions. Prove that the sum of two exterior angles so formed is greater than 180° .

12. In the given fig, side QR of $\triangle PQR$ has been produced to S. If $\angle P : \angle Q : \angle R = 3 : 2 : 1$. and RT is perpendicular PR, find $\angle TRS$.



14. The sides EF, FD and DE of $\triangle DEF$ are produced in order forming three exterior angles DEP, EDQ and FER respectively. Prove that: $\angle DEP + \angle EDQ + \angle FER = 360^\circ$.

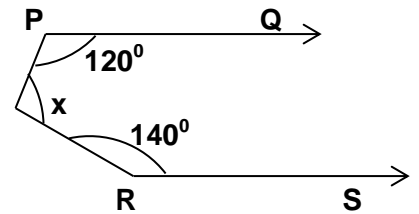
15. In $\triangle ABC$, $\angle B = 45^\circ$, $\angle C = 55^\circ$ and bisector of $\angle A$ meets BC at a point D. Find $\angle ADB$ and $\angle ADC$.

16. Prove that the angle between internal bisector of one base angle and the external bisector of the other is equal to one- half of the vertical angle.

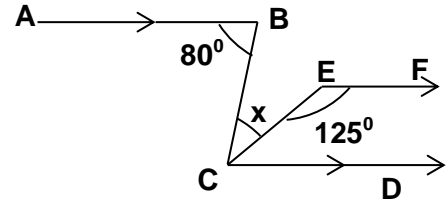
17. Prove that if one angle of a triangle is equal to the sum of the other two angles, the triangle is right angled.

18. AP and DP are the bisectors of two adjacent angles A and D of a quadrilateral ABCD. Prove that: $2 \angle APD = \angle B + \angle C$.

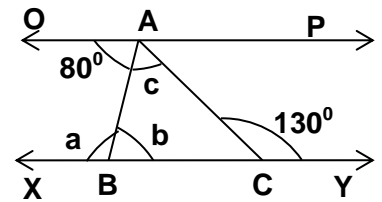
19. In the given fig, $PQ \parallel RS$, find "x".



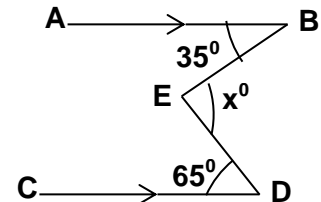
20. In the given fig, $AB \parallel CD$ and $EF \parallel CD$,
 $\angle ABC = 80^\circ$, $\angle CEF = 125^\circ$, find the value of
 "x".



21. In the given fig, find the values of "a", "b" and
 "c" if $XY \parallel OP$.



22. In the given fig, $AB \parallel CD$, find the value of x.



23. In $\triangle ABC$, if $2 \angle A = 3 \angle B = 6 \angle C$, find the measure of each angle of $\triangle ABC$.

24. Two angles measures $(30 - a)^\circ$ and $(125 + 2a)^\circ$. If each one is the
 supplement of the other, find the value of "a".

25. The complementary angles are in the ratio of 1: 5, find the measure of
 angle.

26. Find the angle which is eight times of its compliment.

27. If the measure of an angle is twice the measure of its supplementary angle,
 find the measure of the angle.

28. Sides QP and RQ of $\triangle PQR$ are produced to points S and T respectively,
 such that $\angle PQT = 110^\circ$ and $\angle RPS = 135^\circ$, find $\angle PRQ$.

29. In $\triangle ABC$, the angle bisectors of $\angle ABC$ and $\angle ACB$ meet at a point O. If
 $\angle BAC = 32^\circ$, find $\angle BOC$.