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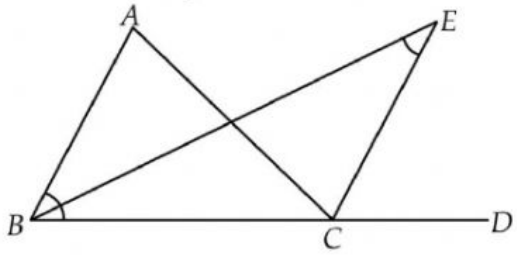
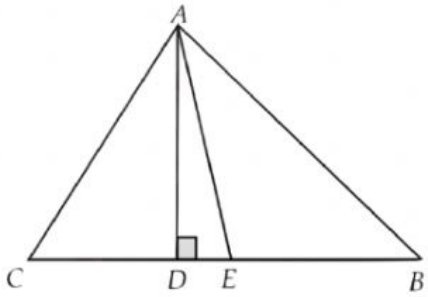
Advanced_Grade-9_Lines and Angles

Triangle

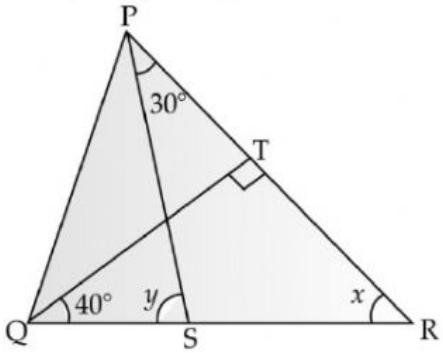
1. Prove that the angle between internal bisector of one base angle and the external bisector of the other base angle of a triangle is equal to one-half of the vertical angle.



2. In the figure of ABC, AE is the bisector of ∠BAC and AD∥BC. Show that ∠DAE = $\frac{1}{2}$(∠C- LB).



3. In given figure, if QT ⊥ PR, ∠TQR = 40° and ∠SPR = 30°, find x, y and supplementary angle of y.



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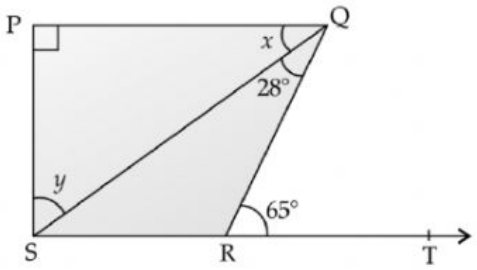
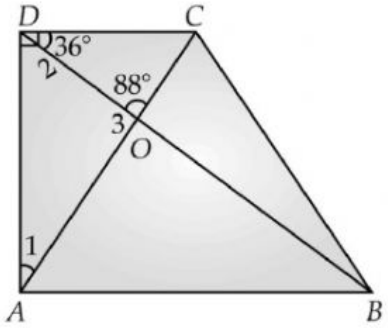
4. In the given figure if PQ ⊥PS, PQ ∥ SR, ∠SQR =28° and ∠QRT = 65°, then find the values of x and y.



5. Prove that the sum of three angles of a triangle is 180°. Using this result, find the value of x and all the three angles of the triangle, if the angles are (2x - 7)°, (x + 25)° and (3x + 12)°.

6. Prove that the sum of all the angles of a triangle is 180°. Also find the angle of a triangle if they are in ratio 5: 6:7.

7. In the given figure, on a quadrilateral ABCD shaped land is a village. How many triangles can be seen in the given figure ? find the measure of ∠1.



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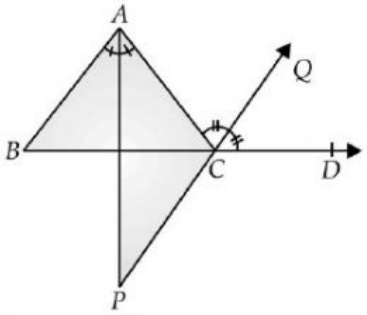
8. In the given figure, AP is the angle of bisector of ∠A and PO is the bisector ∠ACD. Prove that : $\angle APC = \frac{1}{2}\angle ABC$



9. In the given figure, AM ⊥ BC and AN is the bisector of ∠A. If ∠ABC = 70° and ∠ACB = 20°, find the value of ∠MAN.