TEST PAPER: MATHEMATICS

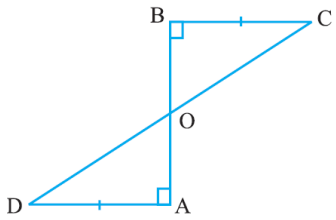
Time: 50 Minutes **Class:** 9th C.B.S.E.

Max. Marks: 30 Marks **Date:** 20th June, 2018

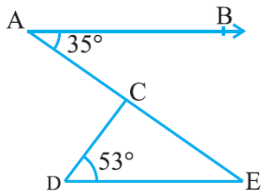
Marking Scheme: *Four questions carry 10 marks each. Questions have 3 subparts each. Subparts (a) and (b) carry 3 marks each and subpart (c) carries 4 marks.*

Question 1:

a. AD and BC are equal perpendiculars to a line segment AB. Show that CD bisects AB.



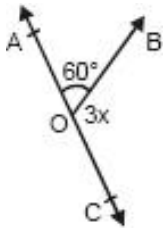
b. In figure below, AB || DE, ∠ BAC = 35° and ∠ CDE = 53°, find ∠ DCE.



c. i. Find the complement of 36°

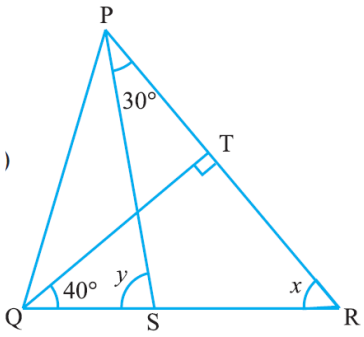
ii. Find the measure of an angle which is 26° more than its complement.

iii. In the given figure, AOC is a line, find x.

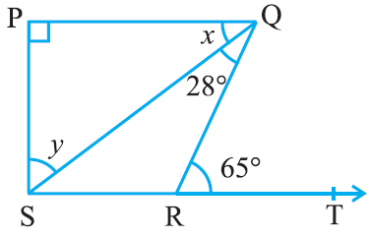


Question 2:

a. In figure below, if QT ⊥ PR, ∠ TQR = 40° and ∠ SPR = 30°, find x and y.



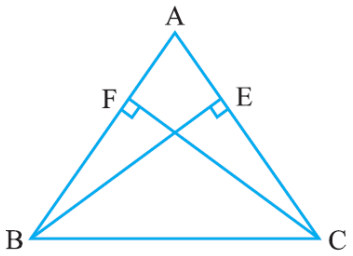
b. if PQ ⊥ PS, PQ || SR, ∠ SQR = 28° and ∠ QRT = 65°, then find the values of x and y.



c. ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal. Show that

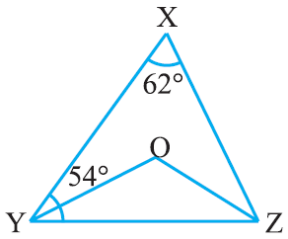
(i) Δ ABE ≅ Δ ACF

(ii) AB = AC, i.e., ABC is an isosceles triangle

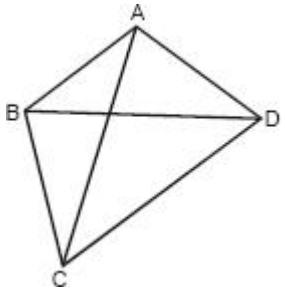


Question 3:

a. ∠X = 62°, ∠XYZ = 54°. If YO and ZO are the bisectors of ∠XYZ and ∠XZY respectively of Δ XYZ, find ∠OZY and ∠YOZ.



b. ABCD is a quadrilateral in which AD = BC and ∠DAB = ∠CBA. Prove that ΔABD ≅ ΔBAC.



c. Line l is the bisector of an angle ∠ A and B is any point on l. BP and BQ are perpendiculars from B to the arms of ∠ A.

Show that:

(i) Δ APB ≅ Δ AQB

(ii) BP = BQ