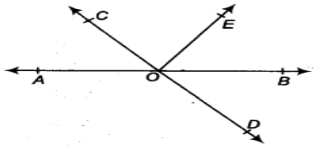
Mona, modern English medium school, Sarangarh

Question blast

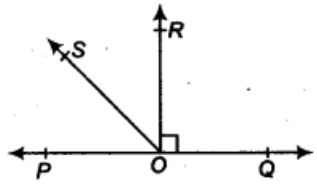
(Round 2)

Que 1--In figure, lines AB and CD intersect at 0. If ∠AOC + ∠BOE = 70° and ∠BOD = 40°, find ∠BOE and reflex ∠COE.



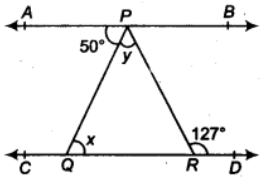
Que 2-In figure, POQ is a line. Ray OR is perpendicular to line PQ. OS is another ray lying between rays OP and OR. Prove that

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



Que 3-It is given that ∠XYZ = 64° and XY is produced to point P. Draw a figure from the given information. If ray YQ bisects ∠ZYP, find ∠XYQ and reflex ∠QYP

Que -4-In figure, if AB || CD, ∠APQ = 50° and ∠PRD = 127°, find x and y.



Que 5-In Fig. 6.31, if PQ || ST, ∠PQR = 110° and ∠RST = 130°, find ∠QRS.

[Hint : Draw a line parallel to ST through point R.]

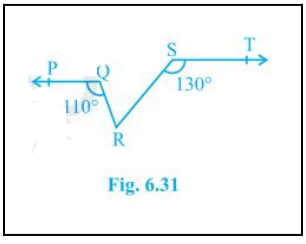
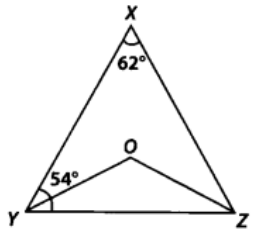


Fig. 6.31

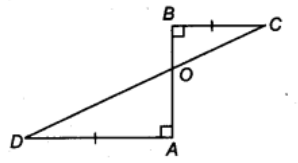
Que 6-In figure, ∠X = 62°, ∠XYZ = 54°, if YO and ZO are the bisectors of ∠XYZ and ∠XZY respectively of ΔXYZ, find ∠OZY and ∠YOZ.



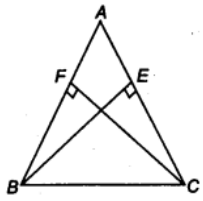
Que 7--Prove that the angles opposite to equal sides of a triangle are equal.

Que 8-Prove that the sides opposite to equal angles of a triangle are equal.

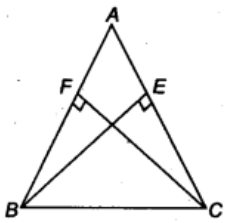
Que 9-AD and BC are equal perpendiculars to a line segment AB (see figure). Show that CD bisects AB.



Que 10-ABC is a triangle in which altitudes BE and CF to sides AC and AB are equal (see figure).



Que 11-ABC is an isosceles triangle in which altitudes BE and CF are drawn to equal sides AC and AB respectively (see figure). Show that these altitudes are equal.



12-In Fig. 6.33, PQ and RS are two mirrors placed parallel to each other. An incident ray AB strikes the mirror PQ at B, the reflected ray moves along the path BC and strikes the mirror RS at C and again reflects back along CD. Prove that AB || CD.

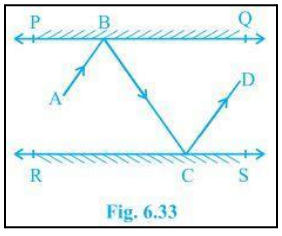
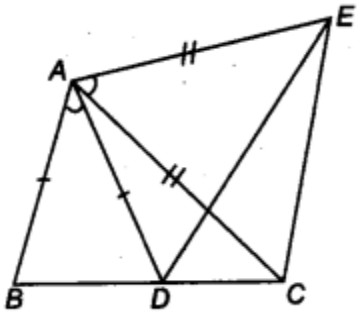
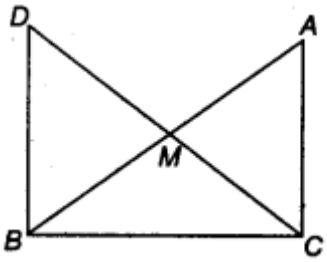


Fig. 6.33

Que 13-In figure, AC = AE, AB = AD and ∠BAD = ∠EAC. Show that BC = DE.



Que 14-In right triangle ABC, right angled at C, M is the mid-point of hypotenuse AB. C is joined to M and produced to a point D such that DM = CM. Point D is joined to point B (see figure). Show that



(i) ∆AMC ≅ ∆BMD

(ii) ∠DBC is a right angle

(iii) ∆DBC ≅ ∆ACB

(iv) CM = 1/2 AB

Que 15-ΔABC is an isosceles triangle in which AB = AC. Side BA is produced to D such that AD = AB (see Fig. 7.34). Show that ∠BCD is a right angle.

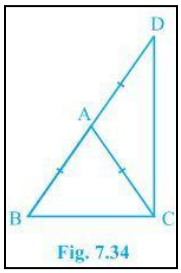


Fig. 7.34

Que 16-ABC is a right-angled triangle in which ∠A = 90° and AB = AC. Find ∠B and ∠C.

Que 17-Show that the angles of an equilateral triangle are 60° each.

18-A traffic signal board, indicating 'SCHOOL AHEAD', is an equilateral triangle with side a. Find the area of the signal board, using Heron's formula.If its perimeter is 180 cm, what will be the area of the signal board?

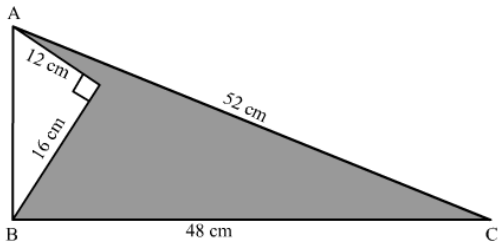
19--Find the area of a triangle two sides of which are 18 cm and 10 cm and the perimeter is 42 cm.

20-An isosceles triangle has a perimeter 30 cm and each of the equal sides is 12 cm. Find the area of the triangle

21-Sides of a triangle are in the ratio of 12 : 17 : 25 and its perimeter is 540 cm. Find its area.

22-Find the cost of laying grass in a triangular field of sides 50 m, 65 m and 65 m at the rate of Rs 7 per m^2.

23- Find the area of the shaded region in figure



24-craft mela is organised by Welfare Association to promote the art and culture for tribal people. Fairs and festivals are the custodians of our great cultural heritage. The pandal is to be decorated by using triangular flags around the field. Each flag has dimensions 25 cm, 25 cm and 22 cm

(i)What is the semi-perimeter of the flag for the above mentioned dimensions?

(ii)What is the area of the flag? (Use V14 = 3.74)

25-(iii)Find the area of cloth required for making 300 such flags in m?.

(iv)if the rate of the cloth is & 200 per m?, find the total cost of 300 flags.