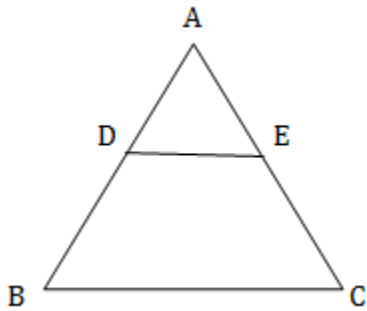
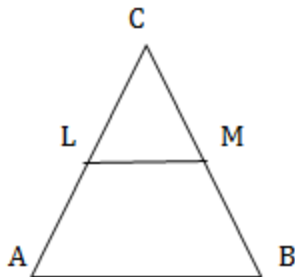


Class: X  
Subject: Maths  
Topic: Triangles  
No. of Questions: 20

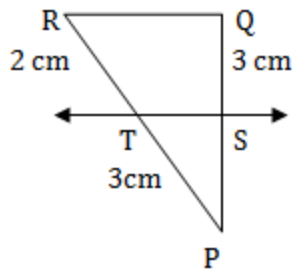
Q.1 In a given  $\triangle ABC$ ,  $DE \parallel BC$  and  $AD/BD = 3/5$ . If  $AC = 5.6$ , find  $AE$ .



Q.2 In the given figure,  $LM \parallel AB$ . If  $AL = x - 3$ ,  $AC = 2x$ ,  $BM = x - 2$  and  $BC = 2x + 3$ , find the value of  $x$ .



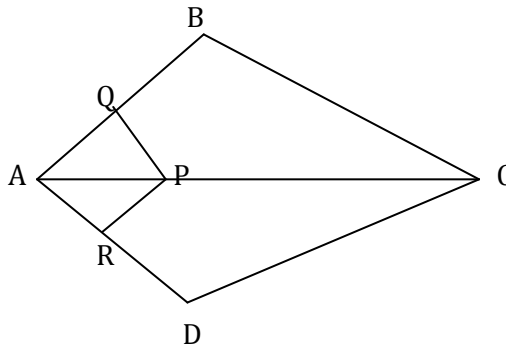
Q.3 In figure, if  $ST \parallel QR$ . Find  $PS$ .



Q.4 Let X be any point on the side BC of a triangle ABC. If XM, XN are drawn parallel to BA and CA meeting CA, BA in M, N respectively; MN meets BC produced in T, Prove that  $TX^2 = TB \times TC$ .

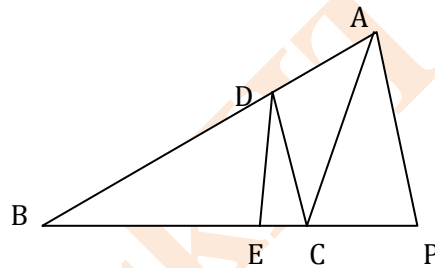
Q.5 In the given figure, if  $PQ \parallel BC$  and  $PR \parallel CD$ . Prove that i)  $AR/AD = AQ/AB$ , ii)  $QB/AQ = DR/AR$ .

(CBSE- 2010)



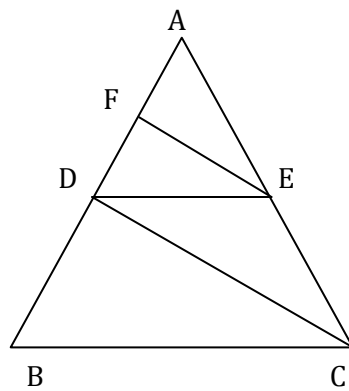
Q.6 In the given figure,  $DE \parallel AC$  and  $DC \parallel AP$ . Prove that  $BE/EC = BC/CP$

(CBSE-2005)



Q.7 In the given figure,  $DE \parallel BC$  and  $CD \parallel EF$ . Prove that  $AD^2 = AB \times AF$

(CBSE-2007)



Q.8 ABCD is a quadrilateral; P, Q, R and S are the points of trisection of sides AB, BC, CD and DA respectively and are adjacent to A and C; Prove that PQRS is a parallelogram.

Q.9 The bisector of interior angle A of triangle ABC meets BC in D, and the bisector of exterior angle A meets BC produced in E. prove that  $BD/BE=CD/CE$ .

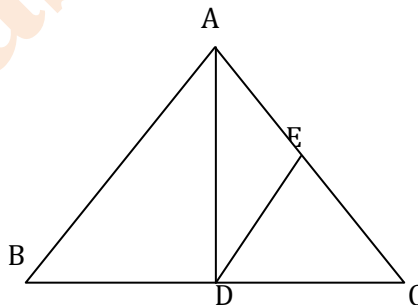
Q.10 AD is a median of  $\Delta ABC$ . The bisector of  $\angle ADB$  and  $\angle ADC$  meet AB and AC in E and F respectively. Prove that  $EF \parallel BC$ .

Q.11 If the bisector of an angle of a triangle bisect the opposite side, prove that the triangle is isosceles.  
(CBSE- 2002)

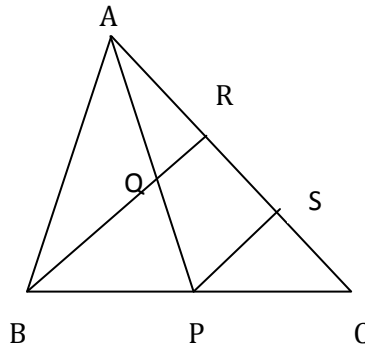
Q.12 The bisectors of the angles B and C of a triangle ABC, meet the opposite sides in D and E respectively. If  $DE \parallel BC$ , prove that the triangle is isosceles.

Q.13 In  $\Delta ABC$ ,  $\angle B=2\angle C$  and the bisector of  $\angle B$  intersects AC at D. Prove that  $BD/DA=BC/BA$ .

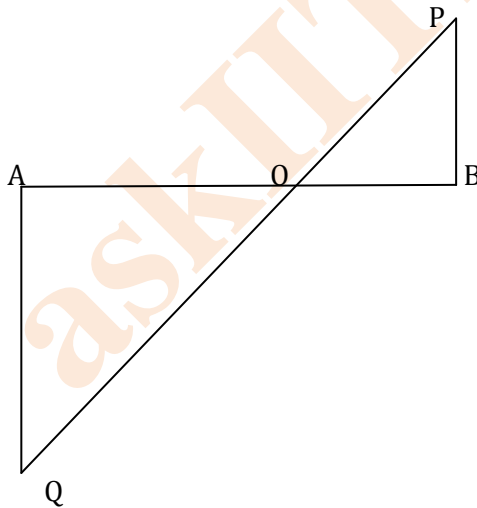
Q.14 In the figure,  $\angle BAC= 90^\circ$ , AD is the bisector. If DE is perpendicular to AC, prove that  $DE \times (AB + AC)= AB \times AC$ .



Q.15 In the figure, P is the mid-point of BC and Q is the mid-point of AP. If BQ when produced meets AC at R, prove that  $RA = \frac{1}{3} CA$ .



Q.16 In the given figure, QA and PB are perpendiculars to AB. If  $AO = 10$  cm,  $BO = 6$  cm and  $PB = 9$  cm. Find AQ.



Q. 17 The perimeters of two similar triangles are 30 cm and 20 cm respectively. If one side of the first triangle is 12 cm, determine the corresponding side of the second triangle.

Q.18 D is a point on the side BC of triangle ABC such that  $\angle ADC = \angle BAC$ . Prove that  $CA/CD = CB/CA$  or  $CA^2 = CB \times CD$ .  
(CBSE-2004)

Q.19 Two poles of height  $a$  metres and  $b$  metres are  $p$  metres apart. Prove that the height of the point of intersection of the lines joining the top of each pole to the foot of the opposite pole is given by  $ab/(a + b)$  metres.

Q.20  $E$  is a point on side  $AD$  produced of a parallelogram  $ABCD$  and  $BE$  intersects  $CD$  at  $F$ . prove that  $\triangle ABE \sim \triangle CFB$ .  
(CBSE-2008)

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