

TOTAL MARKS : 46

SECTION A (2marks each)

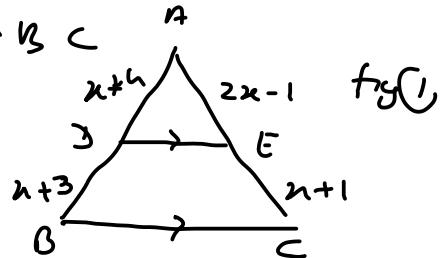
TOTAL TIME : 2:00 hrs

Q1 Find the locus of tip of the pendulum of the clock

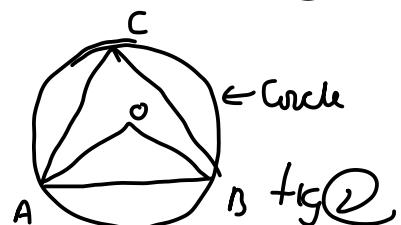
Q2 Point equidistant from three vertices of \triangle is called as ... ?

Q3 If $\triangle ABC \sim \triangle DEF$ and their area are $64\text{cm}^2, 121\text{cm}^2$ respectively. If $EF = 15.4\text{cm}$, find BC

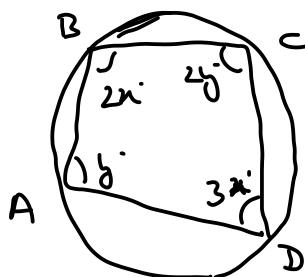
Q4 In fig Q of $\triangle ABC$ the
 x is



Q5 In fig ②, If $\angle CAB = 40^\circ$, then
find value of $\angle ACB$ fig ②



Q6 Find all four angles of
cyclic quadrilateral



Q7 Define stopping distance.

SECTION B (3 marks each)

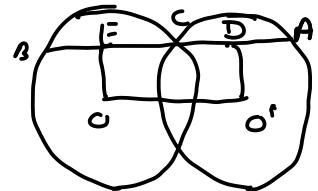
Q8 Draw a line segment AB of length 8.3cm . find a point C at AB such that $AC = \frac{1}{3} AB$, and verify also

Q9. A circle with centre 'O' touches all the four sides of a quadrilateral $ABCD$ internally in such a way that it divide AB in $3:1$ and $AB = 8\text{cm}$ then find the radius of circle where $OA = 10\text{cm}$

Q10 AB and CD are two chords of a circle such that $AB = 10 \text{ cm}$ and $CD = 24 \text{ cm}$ and $AB \parallel CD$. If distance between AB and CD is 17 cm and are on opposite side. Calculate the radius of circle.

Q11 Prove that the cyclic parallelogram is a rectangle.

Q12 In fig (b) O and O' are the centers of circles. $AB \parallel O O'$ then prove that $\angle AOB = 200^\circ$



Q13 In trapezium ABCD, diagonals bisect each other at O and $AB \parallel CD$. Show that $\frac{AO}{BO} = \frac{CD}{DC}$

SECTION C (4 marks each)

Q14 In $\triangle ABC$, medians AD, BE and CF intersect each other at G. Prove that $4(AD + BE + CF) = 3(AB + BC + CA)$

Q15 Prove. In a right triangle, the square of hypotenuse is equal to the sum of the squares of remaining two sides.

Q16 Prove. The angle made by an arc on centre is twice the angle made at any point of the remaining circle.

