LITTLE FLOWER CONVENT HIGH SCHOOL, SOLAPUR.

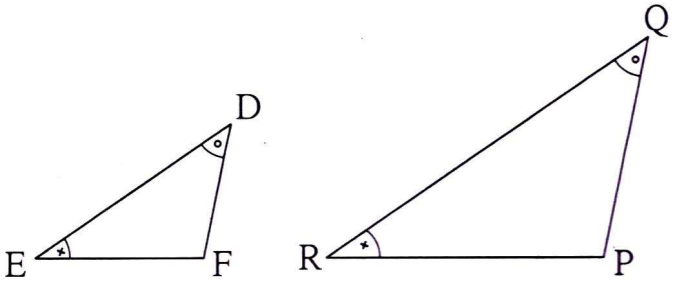
STD	SUBJECT	EXAM	DATE	MARKS	TIME
X	MATHEMATICS-2	I-SEMESTER	27-10-2021	40	2 HOURS

NOTE: - (i)All questions are compulsory.
(ii)The numbers to the right of the questions indicate full marks.
(iii)In case of MCQs Q.No.1(A) only the first attempt will be evaluated and will be given credit.
(iv)For every MCQ, the correct alternative A/B/C/D of answers with sub-question number is To be written as an answer.

Q.1.A] Choose the correct alternative and write the alphabet of that answer **(4)**

1) If Δ DEF and ΔPQR ∠ D ≅ ∠Q,
∠ E ≅ ∠ R
Then which of the following statement is false?

A) $\frac{EF}{PR} = \frac{DF}{PQ}$ B) $\frac{DE}{QR} = \frac{DF}{PQ}$
C) $\frac{DE}{PQ} = \frac{EF}{RP}$ D) $\frac{EF}{RP} = \frac{DE}{QR}$



2) Height and base of a right-angled triangle are 40 cm and 9 cm find the length of its hypotenuse
A) 41 cm B) 35cm C) 39 cm D) 45 cm

3) If ΔABC ~ Δ PQR and $\frac{AB}{PQ} = \frac{5}{7}$ then
A) Δ ABC is bigger B) ΔPQR is bigger C) Both triangles will be equal D) cannot be decided

4) Find the side of a square if its diagonal is $20\sqrt{2}$
A) 2 0 cm B) $40\sqrt{2}$ cm C) 10 cm D) 40 cm

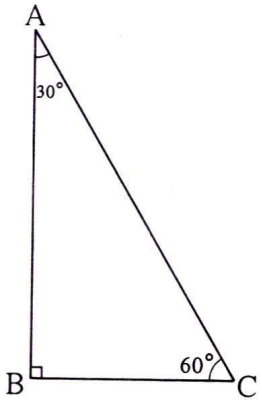
Q.1.B] Solve the following questions **(4)**

1) Δ ABC ~ Δ PQR, if AB = 5, PQ = 10 then find the value of $\frac{A(\Delta ABC)}{A(\Delta PQR)}$

2) Find the height of an equilateral triangle having side 40 cm

3) Base of first triangle is 9 and height is 5. Base of second triangle is 10 and height is 6. Find the ratio of areas of these triangles.

4) In Δ ABC, AC = 6 cm, find AB.



Q.2.A] Complete the activities (Compulsory boxes should made with pencil and scale) **(4)**

1) In the adjoining figure, BP ⊥ AC, CQ ⊥ AB, A – P - C, A – Q – B, then prove that ΔAPB and ΔAQC are similar

Proof: -

In Δ APB and ΔAQC

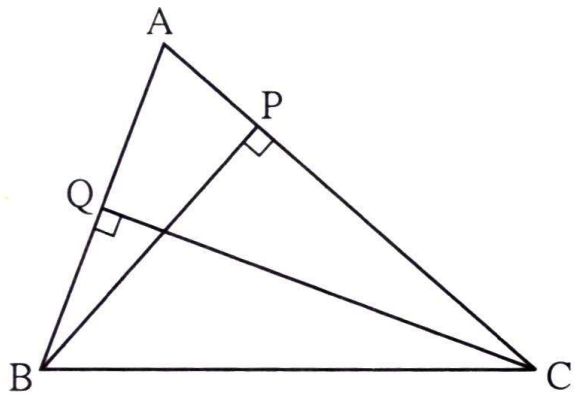
m∠ APB = ☐ …… (1)

m∠ AQC = ☐ …… (2)

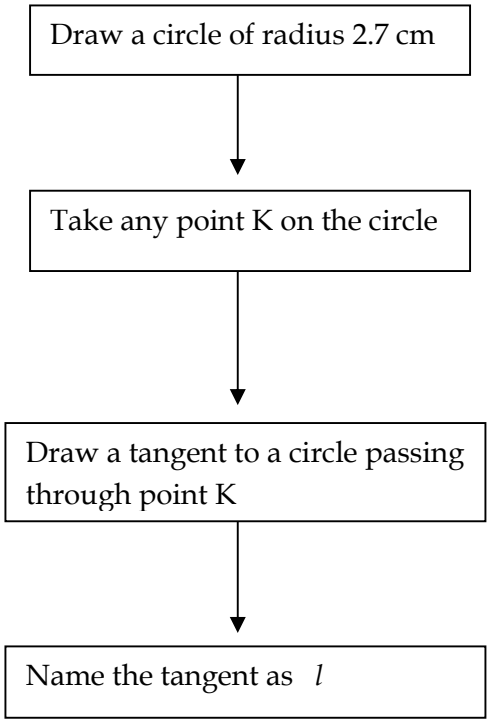
∠ APB ≅ ∠AQC …… from (1) and (2)

∠ PAB ≅ ∠QAC …… ☐

∴ ΔAPB ~ Δ AQC …….. ☐



2) Read the flow chart to draw a tangent to a circle at a point on the circle without using centre.

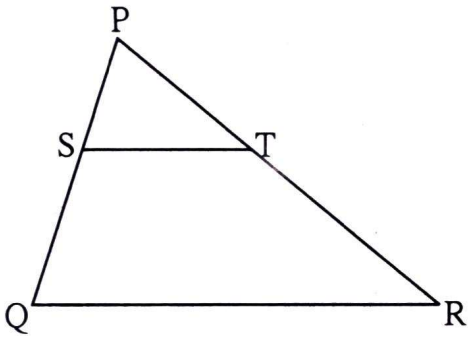


Q.2. B] Solve the following **(8)**

1) In Δ PQR, ST ∥ QR

l(PS) = 2.5, l(SQ) = 5

find $\frac{PT}{TR}$



2) In ΔPQR, PQ = $\sqrt{8}$, QR = $\sqrt{5}$, PR = $\sqrt{3}$. Determine whether ΔPQR is a right-angled triangle or not.

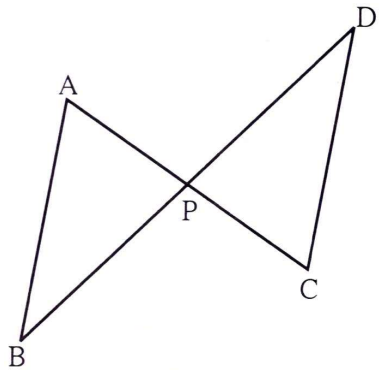
3) In the figure given alongside

seg AC and seg BD intersect

each other in point P and

$\frac{AP}{CP} = \frac{BP}{DP}$

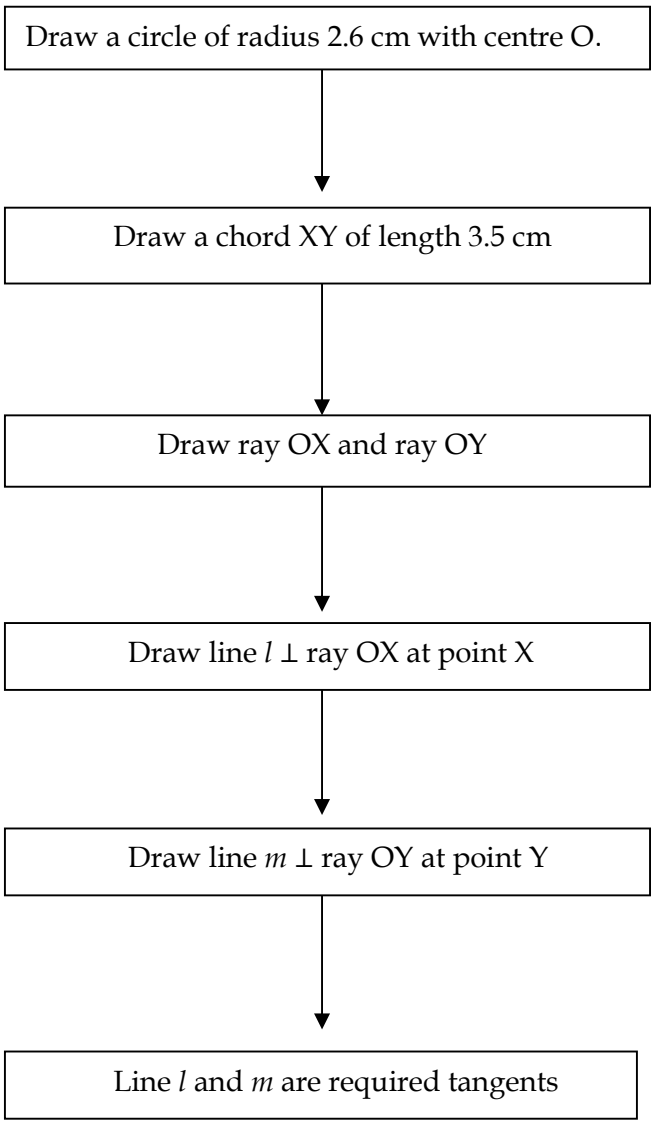
Prove that, ΔABP ~ ΔCDP



4) Draw a seg of length 11.6 cm and divide it into 3 equal parts.

Q.3.A] Complete the following activity (Compulsory boxes should made with pencil and scale) (3)

1) Read the flow chart and draw tangents to the circle.

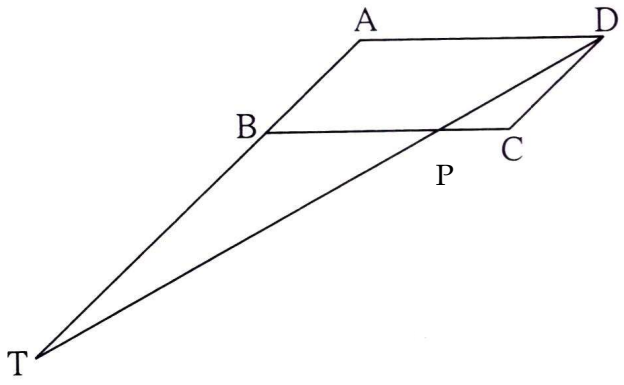


Q.3. Solve the following sub questions **(6)**

1) □ ABCD is a parallelogram, point P is on side BC line DP intersects ray AB in point T.

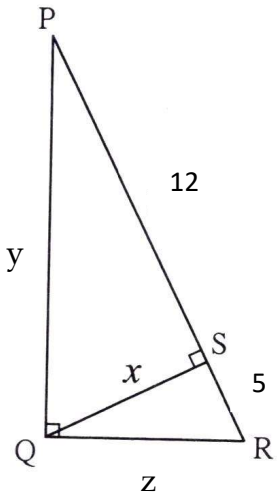
Prove: -

$DP \times BP = CP \times TP$



2) With the help of information given in the figure

Find value of x, y and z.



Q.4. Attempt the following sub questions **(8)**

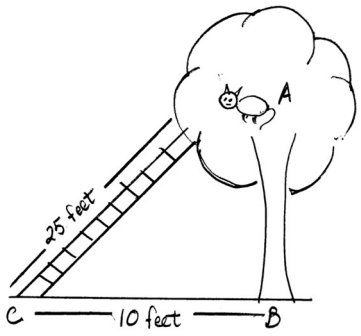
1) Prove that, in a right-angled triangle, the square of the hypotenuse is equal to the sum of the squares of remaining two sides.

2) ΔAMT ~ ΔAHE. In ΔAMT, MA = 6.3 cm, ∠ MAT = 120^0, AT = 4.9 cm. and $\frac{MA}{HA} = \frac{7}{5}$. Construct ΔAHE

Q.5. Solve the following question **(3)**

1) With the help of the figure given alongside.

Find how high did the cat climb a tree.



LITTLE FLOWER CONVENT SCHOOL

I - TERM INTERNAL EVALUATION: M.C.Q.

SUBJECT : MATHS -2 **MARKS : 10**

STD: X **DATE: 27-10-2021**

***NOTE :**

- **Please use a separate answer sheet for MCQ Paper and staple it along with Math-2 Theory answer sheet [in front].**
- **Copy each question and then write the correct answer [option alphabet A/B/C/D.]**
- **Please do not copy all four options.**
- **Each question carries 1 mark.**

Q1] Which of the following is not a test of similarity?

A] A-A-A Test **B] S-A-S Test** **C] S-A-A Test** **D] S-S-S Test**

Q2] In a rectangle, length is equal to 8 cm and breadth is equal to 6 cm, then its diagonal is ------

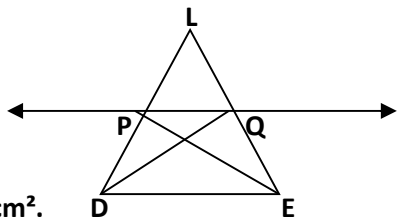
A] 9 cm **B] 14 cm** **C] 10 cm** **D] 12 cm**

Q3] The largest side of a right-angled triangle is --------

A] Hypotenuse **B] Altitude** **C] Median** **D] None of these**

Q4] In the figure seg PQ|| seg DE, then $\frac{A(\Delta DPQ)}{A(\Delta EPQ)}$ = -----

A]$\frac{1}{2}$ **B]$-\frac{1}{2}$** **C] $\frac{1}{3}$** **D]$\frac{1}{1}$**



Q5] The areas of two similar triangles are 36 cm² and 121 cm². The ratio of their corresponding sides is -----

A] 36 : 121 **B] 6 : 11** **C] 11 : 6** **D] 121 : 36**

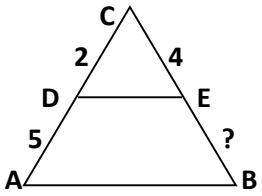
Q6] A point P is at a distance of 8 cm from the centre of a circle of radius 5 cm. How many tangents can be drawn from point P to the circle.

A] 0 **B] 1** **C] 2** **D] infinite**

Q7] Out of the following which is a Pythagorean triplet?

A](5 ,12 ,4) **B](3, 4, 2)** **C](8 ,15, 17)** **D] (5, 5, 2)**

Q8] In given figure, if DE || AB then find BE



Q9] In the division of a line segment AB, any ray AX making angle with AB is____

A] an acute angle **B] a right-angle** **C] an obtuse angle** **d] reflex angle**

Q 10] A man goes 10m to the east and then 24m to the north. Find his distance from the starting point.

A] 10m **B]11m** **C] 24m** **D] 26m**

****